

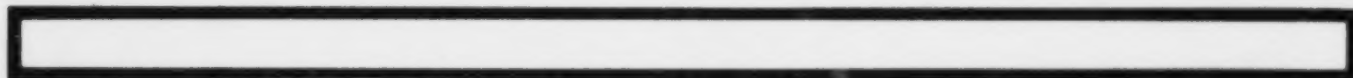
Superfund Federal-Lead Remedial
Project Management Handbook

Booz-Allen and Hamilton, Inc., Bethesda, MD

Prepared for

Environmental Protection Agency, Washington, DC

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16. ABSTRACT The handbook defines the roles and responsibilities of the Remedial Project Officer (RPM) with regard to Federal-lead remedial projects at uncontrolled hazardous waste sites. It also discusses project management techniques and the resources available to the RPM for accomplishing his mission.		
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SUPERFUND FEDERAL-LEAD
REMEDIAL PROJECT MANAGEMENT
HANDBOOK

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Notice

This document has been reviewed in accordance with U.S. Environmental Protection Agency policy and approved for publication. Mention of trade names or commercial products does not constitute endorsement or recommendation for use.

PROJECT COORDINATOR'S PREFACE

The *Superfund Federal-Lead Remedial Project Management Handbook* is intended to serve three general purposes. First, the handbook presents the various actions and deliverables that comprise the Federal-lead remedial project, and then it defines the roles and responsibilities of the Remedial Project Manager (RPM) in accomplishing those actions and deliverables. Second, the handbook serves as a pathfinder to guide the RPM to the various resources available for support of the remedial project management function. Finally, the handbook introduces the RPM to some of the fundamental concepts of project management in order to aid the RPM in planning, monitoring, controlling, and directing projects. The handbook should be useful to both new and experienced RPMs as well as supervisory personnel and others involved with Superfund sites.

The handbook presents the various actions and deliverables that comprise the remedial process from initial project planning through project closeout and National Priorities List (NPL) deletion. These actions and deliverables are shown in Exhibit 1-1 in an order that represents their relative sequence in the project. Presenting project components in this manner allows the RPM to find his/her position in the project and look ahead to next events. The objective is to promote a proactive management style of anticipating and resolving problems before they adversely impact project cost, schedule, or technical quality. The handbook also defines the roles and responsibilities of the RPM relative to other project participants such as the States, U.S. Army Corps of Engineers, EPA contractors, other EPA program offices, and other agencies.

Project management can be defined as the bringing together of resources according to a plan in order to achieve an objective (usually specified in terms of technical quality or cost and schedule performance). The RPM has an array of resources available to accomplish the project objectives: guidance documents, in-house personnel, and contractor support. In serving its pathfinder function, the handbook narrative directs the RPM to more detailed discussions in relevant guidance documents and references, suggests areas where in-house personnel may be available for review and consultation purposes, and describes the mechanics by which contractor or other agency resources are accessed.

The handbook discusses in general terms some of the fundamental concepts of project management that are readily transferrable to hazardous waste site remedial project management. Three important management functions (planning, monitoring, and control) are described in some detail. Also discussed are the RPM's oversight functions (directing, coordinating, and communicating). It is anticipated that this introduction to the concepts of project management will enhance the development of RPMs as managers.

The Superfund Amendments and Reauthorization Act of 1986 (SARA) will cause some changes in the way the remedial program is managed. These changes have been reflected to a limited extent in this edition of the handbook. The reader is encouraged to study the new statute and to look for a series of memoranda on SARA from Headquarters. To facilitate a future revision, we are requesting that the users of this edition provide comments as they arise which can then be incorporated into the revised edition. In this way, the handbook is put through an extended "road test," and the usefulness of the handbook is enhanced. It is our hope that the handbook, along with its State-lead counterpart, will become a key document in the RPM's reference library.

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- F ROD Materials: Responsiveness Summary and ROD Briefing Materials

LIST OF ACRONYMS

AA/OSWER	- Assistant Administrator for the Office of Solid Waste and Emergency Response
A/E	- Architectural/Engineering
ARARs	- Applicable or Relevant and Appropriate Federal or State Standards, Requirements, Criteria, or Limitations
ATSDR	- Agency for Toxic Substances and Disease Registry
CA	- Cooperative Agreement
CBD	- Commerce Business Daily
CERCLA	- Comprehensive Environmental Response, Compensation and Liability Act
CERCLIS	- CERCLA Information System
CFR	- Code of Federal Regulations
CLP	- Contract Laboratory Program
CO	- Contracting Officer (HQ)
CPM	- Critical Path Method
CRP	- Community Relations Plan
EDD	- Enforcement Decision Document
EE/CA	- Engineering Evaluation/Cost Analysis
EO	- Executive Order
EPA	- Environmental Protection Agency
ERA	- Expedited Response Action
ERRIS	- Emergency and Remedial Response Information System
ERT	- Environmental Response Team
ESD	- Environmental Services Division
FCC	- Fiscal Control Center
FMS	- Financial Management System
FS	- Feasibility Study
FY	- Fiscal Year
GAD	- Grants Administration Division
GAO	- General Accounting Office
GAB	- Grants Administration Branch
HQ	- EPA Headquarters
HRS	- Hazard Ranking System
HRSD	- Hazardous Response Support Division
HSCD	- Hazardous Site Control Division
IAG	- Inter-Agency Agreement
IFB	- Invitation for Bids
IG	- Inspector General
IRM	- Initial Remedial Measure
LOE	- Level of Effort
MBE	- Minority Business Enterprise
MOA	- Memorandum of Agreement
MRD	- Missouri River Division
MSCA	- Multi-Site Cooperative Agreement
NCP	- National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR 300)
NDD	- Negotiations Decision Document
NEIC	- National Enforcement Information Center
NPL	- National Priorities List
OECM	- Office of Enforcement and Compliance Monitoring

LIST OF ACRONYMS **(Continued)**

OERR	- Office of Emergency and Remedial Response
OGC	- Office of General Counsel
OLEP	- Office of Legal and Enforcement Policy
O&M	- Operation and Maintenance
OMB	- Office of Management and Budget
ORC	- Office of Regional Counsel
OWPE	- Office of Waste Programs Enforcement
PA	- Preliminary Assessment
PO	- Project Officer (HQ)
PRP	- Potentially Responsible Party
QAPP	- Quality Assurance Project Plan
PTS	- Project Tracking System
RA	- Remedial Action or Regional Administrator
RC	- Regional Coordinator (HQ)
RCRA	- Resource Conservation and Recovery Act
RD	- Remedial Design
REM	- Remedial Planning Contractor
RFP	- Request for Proposals
RFQ	- Request for Qualifications
RI	- Remedial Investigation
RI/FS	- Remedial Investigation/Feasibility Study
ROD	- Record of Decision
RPM	- Remedial Project Manager
RSCRC	- Regional Superfund Community Relations Coordinator
RSPO	- Regional Site Project Officer (RPM now used)
SARA	- Superfund Amendments and Reauthorization Act of 1986
SCAP	- Superfund Comprehensive Accomplishments Plan
SI	- Site Inspection
SMP	- Site Management Plan
SOW	- Statement of Work
SPO	- State Project Officer
SPOC	- Single Point of Contact
SRCB	- State and Regional Coordination Branch (HSCD)
SSC	- Superfund State Contract
SSP	- Site Safety Plan
TAT	- Technical Assistance Team
USACE	- U.S. Army Corps of Engineers
USACE-MRD	- USACE Missouri River Division
WACR	- Work Assignment Completion Report
WA	- Work Assignment
WBE	- Women's Business Enterprise

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Booz, Allen & Hamilton, Inc., Bethesda, Maryland, prepared the handbook (EPA Contract No. 68-01-6888). The Booz, Allen Project Manager was Raymond Rose. William Lamb and Robert Kravitz developed and coordinated the design and production of the final document. Chapter 2 of the handbook was developed, in part, by CH2MHill.

1. INTRODUCTION

Large engineering and construction projects generally proceed through four sequential phases: planning, design, construction, and operation. These four phases can also be used to characterize activities of Federal-lead Superfund remedial response projects at hazardous waste sites identified on the National Priorities List (NPL). The project planning phase for remedial response at a hazardous waste site includes initial planning activities and the remedial investigation and feasibility study (RI/FS). This is followed by a decision on the appropriate remedial action and then by the remedial design (RD) phase in which the selected technology concept(s) is developed into engineering specifications for application. After the RD is complete, the construction or remedial action (RA) phase proceeds. Construction is frequently followed by an extended period of treatment system operation (and, in some cases, system modification) until appropriate public health and environmental goals are accomplished. In the case of complex remediation needs, there may be more than one construction action and operational system, each requiring a planning and design effort. Once cleanup is achieved, the closeout process is initiated for deletion of the site from the NPL. Deletion from the NPL marks successful completion of the remedial response project.

The most effective way to complete a remedial response project successfully is to vest responsibility for the project in a single individual within EPA -- the Remedial Project Manager (RPM). The term "RPM" is defined as "... the Federal official designated by EPA ... to coordinate, monitor, or direct remedial activities..." under Subpart F of the *National Oil and Hazardous Substances Pollution Contingency Plan (NCP)* (*Federal Register*, November 20, 1985). Previously, an individual in this role was known as a Regional Site Project Officer (RSPO).

This handbook has been prepared to assist the EPA RPMs in managing Federal-lead remedial response projects. It describes in detail the responsibilities of the RPM during the planning, design, construction, operation, and closeout of remedial response projects. It is designed to complement EPA's *Superfund State-Lead Remedial Project Management Handbook*, which provides assistance to RPMs in overseeing State-lead, Federally funded remedial response projects conducted under cooperative agreements (CAs). This handbook does not specifically address the relatively few instances in which the U.S. Army Corps of Engineers (USACE) or another Federal agency is given the lead for an RI/FS through an Interagency Agreement (IAG). However, such an arrangement is somewhat analogous to a State-lead project in that the RPM is separated from the response contractor by a layer of management.

This handbook is intended to provide the RPM with quick reference information on what actions need to be taken during each step of the remedial process. Much of the information presented is drawn from existing EPA policy and guidance documents including, for example:

- *Guidance on Remedial Investigations Under CERCLA*, June 1985
- *Guidance on Feasibility Studies Under CERCLA*, June 1985
- *Superfund Remedial Design and Remedial Action Guidance*, June 1986
- *State Participation in the Superfund Program*, February 1984.

The chapters that follow are the products of an effort to compile into a single document information concerning the RPM's roles and responsibilities for managing remedial

response activities. The handbook is not intended to replace the many detailed guidance documents from which it was developed. At the end of each chapter, a list of titles of helpful detailed guidance documents is provided. The RPM should have them available for ready access.

The handbook addresses all phases of the remedial planning and implementation process (except pre-NPL listing activities) from project startup to site closeout and NPL deletion. Exhibit 1-1 illustrates these phases, including specific activities that occur during the remedial planning and implementation process. The upper portion of the diagram identifies those activities that are generally performed by the remedial planning (REM) contractors or the USACE under EPA oversight. The lower portion shows activities performed by EPA. This exhibit portrays the general order in which the activities should occur during the remedial response project. The handbook is organized in the same order. Individual chapters are briefly described below:

- Chapter 2. Project Management Concepts-- provides the RPM with information concerning basic project management concepts and relates these concepts to practice in the remedial response process. This chapter provides a background for the more program-specific discussions in the remaining chapters.
- Chapter 3. Initial Project Planning and Startup-- describes the project planning efforts conducted by the RPM for the period through initiation of the RI/FS. It identifies overall project planning activities required before starting a remedial project and presents procedures for issuing work assignments to the REM contractor.
- Chapter 4. Remedial Investigation and Feasibility Study-- provides a description of RPM responsibilities during RI/FS. It also discusses the RPM's responsibility for ensuring an efficient transition to the Record of Decision (ROD) stage and to RD.
- Chapter 5. Record of Decision and Transition to Design-- addresses RPM responsibilities during the development, review, and approval of the ROD, which documents the Agency's selected remedial alternative. It also outlines the preliminary activities required for initiation of the RD phase.
- Chapter 6. Remedial Design -- discusses the RPM's activities during the development of the RD. It provides a checklist of specific activities for which the RPM must initiate and supervise action, promote and coordinate oversight, and act in a review/advisory capacity.
- Chapter 7. Remedial Action -- outlines RPM responsibilities during the implementation of the RA. It also discusses the RPM's role during the startup and initial operation of treatment systems constructed as part of the remedy.
- Chapter 8. Project Closeout -- reviews the procedures followed in closing out a project. It also describes the RPM's role and responsibilities in NPL deletion, operation and maintenance (O&M), and project closeout.

In each of these chapters, additional EPA guidance documents are referenced to direct the RPM to pertinent background and supplementary information. Sample documentation and specific procedures for processing forms and obtaining approvals have been highlighted. Management interactions between the RPM and the USACE, the affected State, and EPA community relations and enforcement personnel are also appropriately noted.

The handbook can serve as a training tool for new EPA RPMs and other EPA personnel (e.g., community relations and enforcement staff). It is an information resource for individuals outside of the Agency, such as the REM contractor, the USACE, and State personnel. It should help clarify the many technical and management tasks required to complete a Federal-lead remedial response project, and assist in their coordination in EPA's Superfund remedial response program.

ADDITIONAL SOURCES OF INFORMATION

Comprehensive Environmental Response, Compensation, and Liability Act of 1980.

Guidance on Feasibility Studies Under CERCLA OERR and OWPE, June 1985. (OSWER Directive 9355.0-5C)

Guidance on Remedial Investigations Under CERCLA OERR and OWPE, June 1985. (OSWER Directive 9355.0-6B)

"Implementation Strategy for Reauthorized Superfund: Short-Term Priorities for Action," October 24, 1986. (OSWER Directive 9200.3-02)

National Oil and Hazardous Substances Pollution Contingency Plan (47 FR 31180), November 20, 1985.

State Participation in the Superfund Program Volume I, OERR, February 1984. (OSWER Directive 9375.1-4)

Superfund Amendments and Reauthorization Act of 1986.

Superfund Remedial Design and Remedial Action Guidance OERR, June 1986. (OSWER Directive 9355.0-4A)

Superfund State-Lead Remedial Project Management Handbook OERR, December 1986. (OSWER Directive 9355.2-1)

Work Assignment Procedures for Remedial Contracts OERR, November 1986. (OSWER Directive 9242.3-3A)

EXHIBIT 1-1 Remedial Site Chronology (Federal-Lead)

CHAPTER 3 INITIAL PROJECT PLANNING AND START-UP ACTIVITIES

CHAPTER 4 REMEDIAL INVESTIGATION / FEASIBILITY STUDY (RIFS)

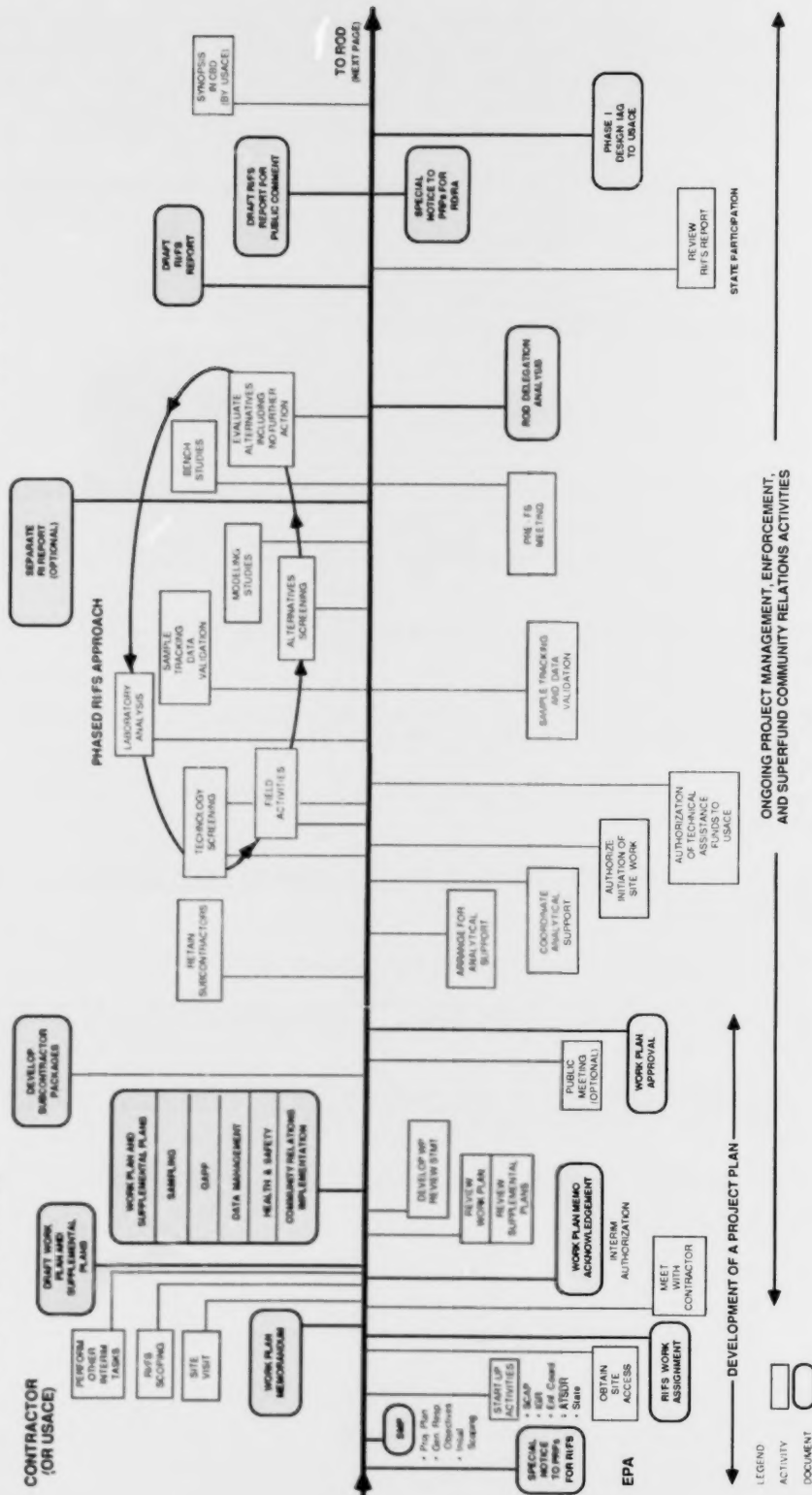
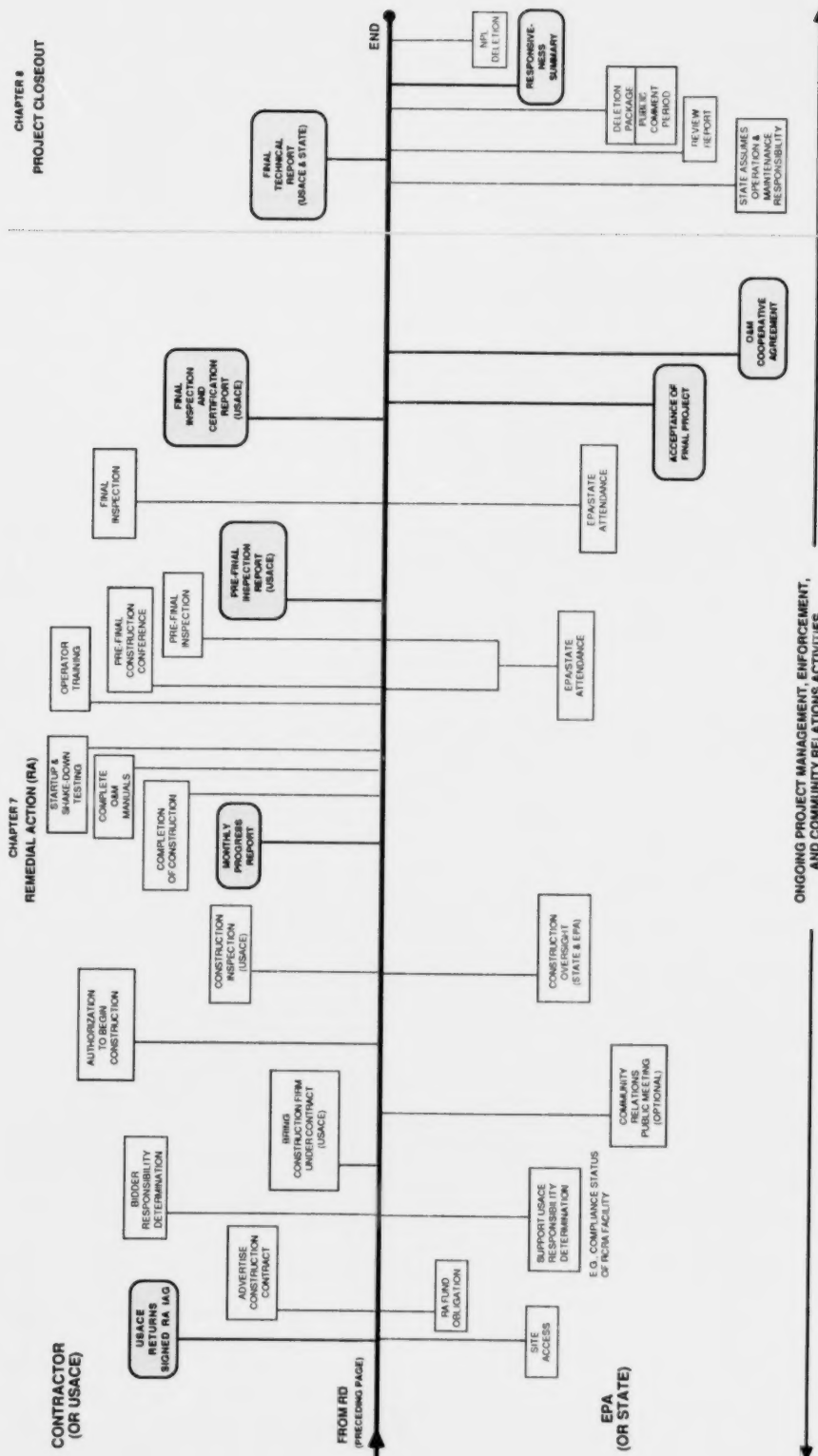


EXHIBIT 1-1



EXHIBIT 1-1 Remedial Site Chronology (Federal-Lead)



2. PROJECT MANAGEMENT CONCEPTS

Throughout the handbook, the role and responsibilities of the RPM are defined relative to other participating parties. This chapter provides the RPM with some basic project management concepts and relates them to the Superfund site remediation process. The reader should bear in mind that, during certain phases of the project, many of the project management tools discussed here will actually be used by others (such as the REM contractor project manager). Even so, the RPM, in an oversight and coordination role, must know enough about these project management concepts and tools to provide input, where appropriate, and use the output, when available.

The remediation of uncontrolled, hazardous waste sites is a technically complex process of long duration. The remedial project is subject to many technical, economic, policy, and institutional constraints; and a number of responsibility transfers occur during the course of the project. The activities and deliverables that comprise a Superfund hazardous site remedial project were identified in Exhibit 1-1, in the previous chapter. Exhibit 2-1 provides an overview of the typical schedule, process constraints, and primary participants in a Superfund site remedial response. Close project management and oversight are necessary because of the complexities, constraints, and numerous parties involved in a site remediation project.

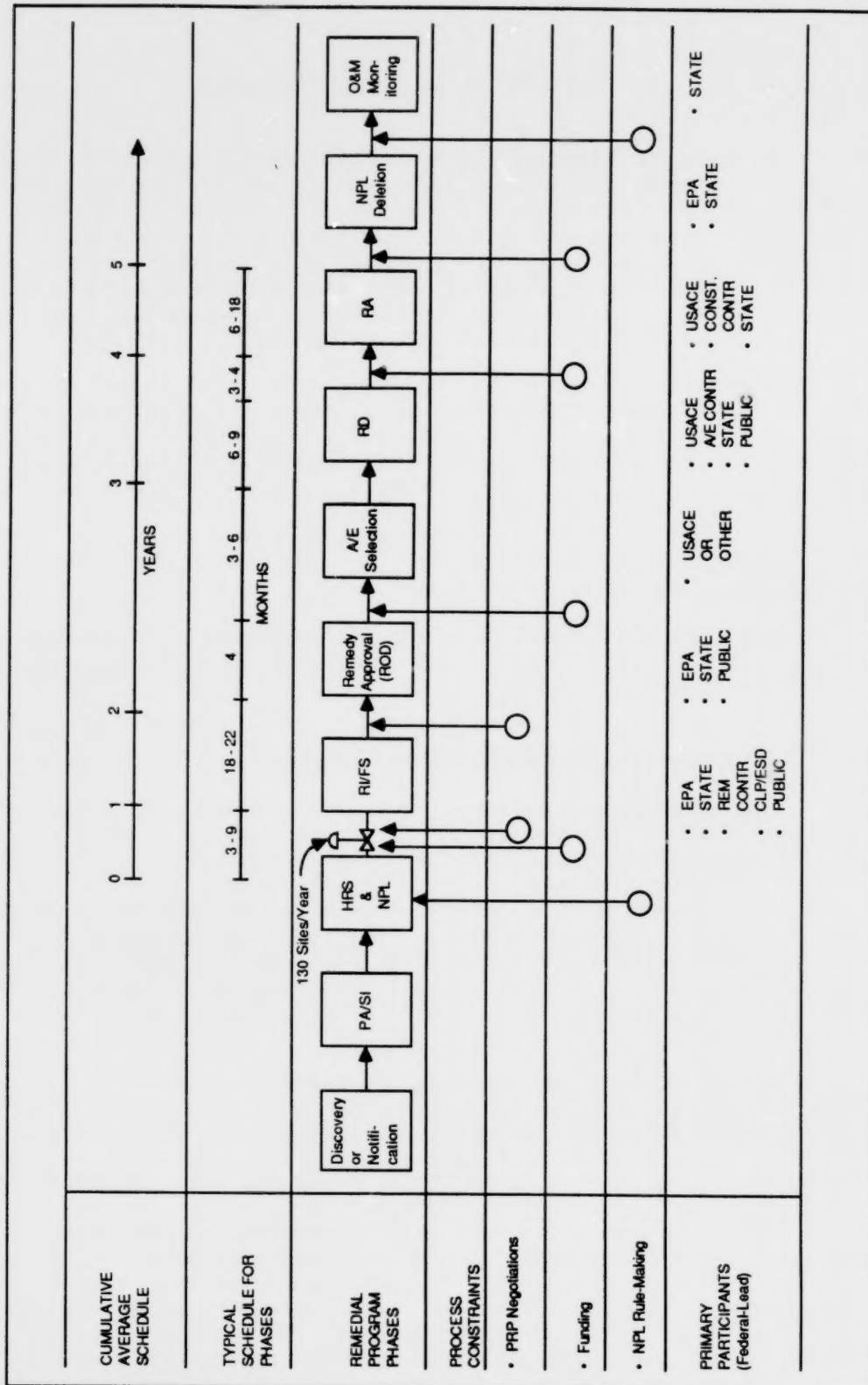
In the following paragraphs, the basic concepts of project management are discussed as applied in both the public and private sectors for studies, engineering designs, and construction activities.

2.1 GENERAL PROJECT MANAGEMENT FUNCTIONS

Project management is the bringing together of individuals, institutions, firms, technologies, money, equipment, time, and other resources in accordance with a plan for the purpose of achieving a set of objectives. Project management is accomplished most effectively by placing the responsibility for project success in the hands of a single individual, the project manager. The project manager is responsible for carrying out two types of project management functions: (1) planning, monitoring, and control, and (2) directing, coordinating, and communicating. The project manager performs these management functions by using common-sense approaches that are based on experience and supplemented by "tools of the trade," such as scheduling, budgeting, or reporting systems.

In reality, a project manager is held accountable for all aspects of a project, but seldom has the strength of authority or the control over externalities to "require" that a project proceed according to plan. This is certainly the case for Superfund projects and the RPM. Thus, the RPM must develop a strongly proactive approach to project management. The proactive approach is to look ahead, which includes developing anticipatory actions, work-around strategies, and modifications to work plans in order to accommodate the changes, surprises, and problems that are certain to occur as the project progresses. The project manager needs to keep a clear vision of the final objective -- successful completion of the project on time and within budget -- without getting into a reactive, crisis-management mode. The successful project manager must be an organizer and a negotiator, have a knowledge of technologies, and possess well-developed interpersonal skills. Above all, the project manager must view problems

EXHIBIT 2-1 Remedial Process – Historical Timeframes



and setbacks as challenges to be overcome. A list of project management references is included at the end of this chapter. Some important project management functions are discussed below.

2.2 PLANNING, MONITORING, AND CONTROL

Project planning is the process of identifying the scope, schedule, budget, and resources needed to achieve project objectives effectively. Monitoring and control are the observation of technical performance, comparing actual versus planned performance and taking corrective action as needed. A number of project management functions are required to plan, monitor, and control project activities. Exhibit 2-2 presents the sequence of these functions, which are described in the remainder of this section.

2.2.1 Planning

The elements of project planning are defined as follows:

- Establishing scope -- Determining project objectives and identifying discrete tasks needed to achieve the objectives
- Scheduling -- Identifying timeframes for each task and the overall project
- Budgeting -- Assigning costs to individual tasks and the total project
- Organizing -- Arranging personnel and other resources to achieve the project objectives.

In each of the above elements, consideration must be given to funding/resource constraints that might affect project implementation. Methods of conducting each of the project planning elements are outlined in the following paragraphs.

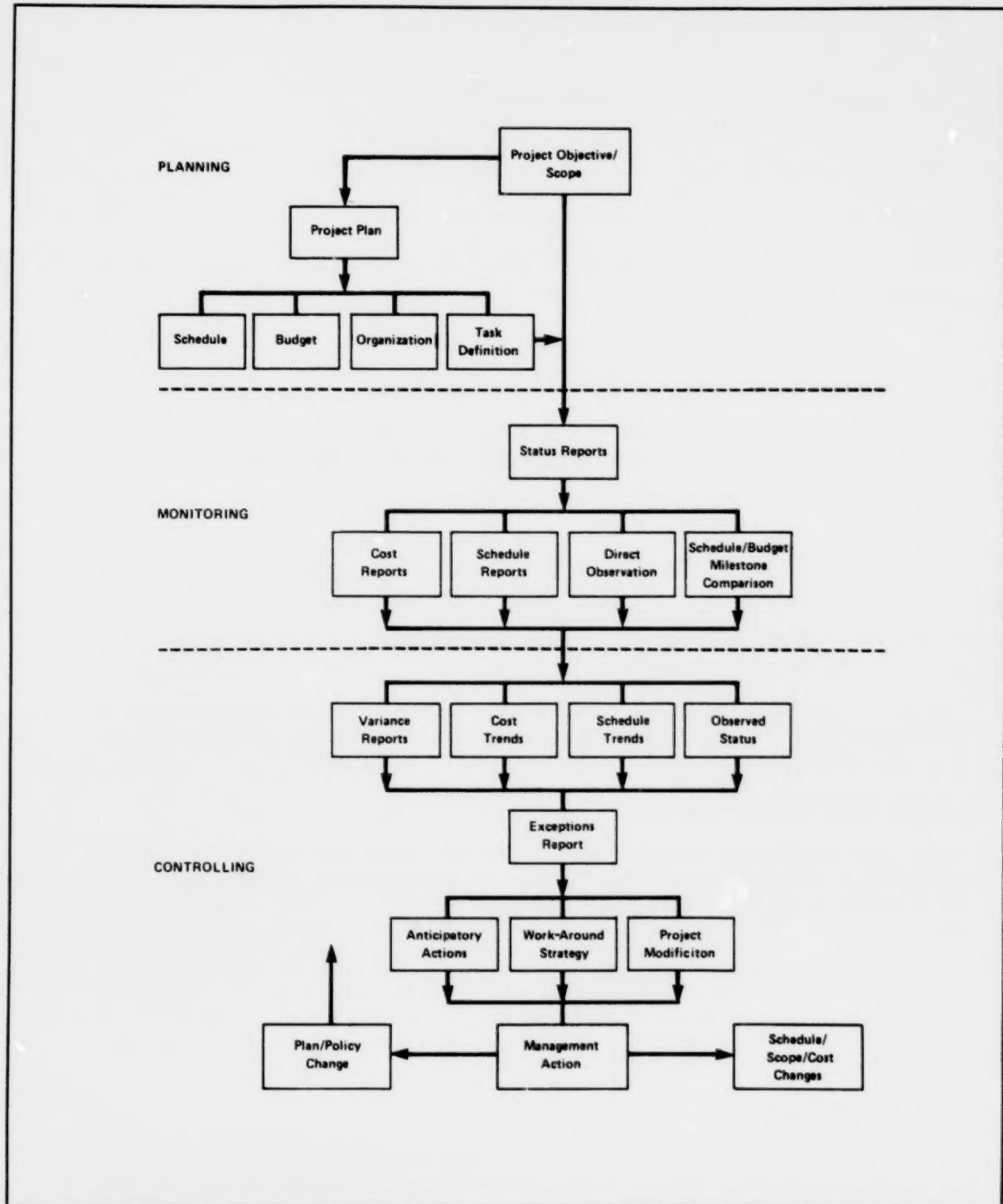
2.2.1.1 Establishing Scope

The RPM's role in project scope development is to determine the conceptual approach for the entire project to accomplish the ultimate goal of selecting, designing, and implementing the site remedy. Establishing scope includes conceptualizing operable units (discrete parts of the entire response action, consistent with a final remedy, that decrease a release, threat of release, or pathway of exposure). For example, a site may be divided into several operable units, one of which may be an expedited response action (formerly called an initial remedial measure) to supply an alternate drinking water supply to nearby residents. The RPM provides direction to the REM contractor and the USACE in identifying project objectives, operable units, and project constraints.

2.2.1.2 Scheduling

Scheduling is a key component of planning, management, and control, since establishing a realistic project schedule is an integral part of the RPM's responsibility to complete program targets (ROD approval, site cleanup) on time. The Superfund

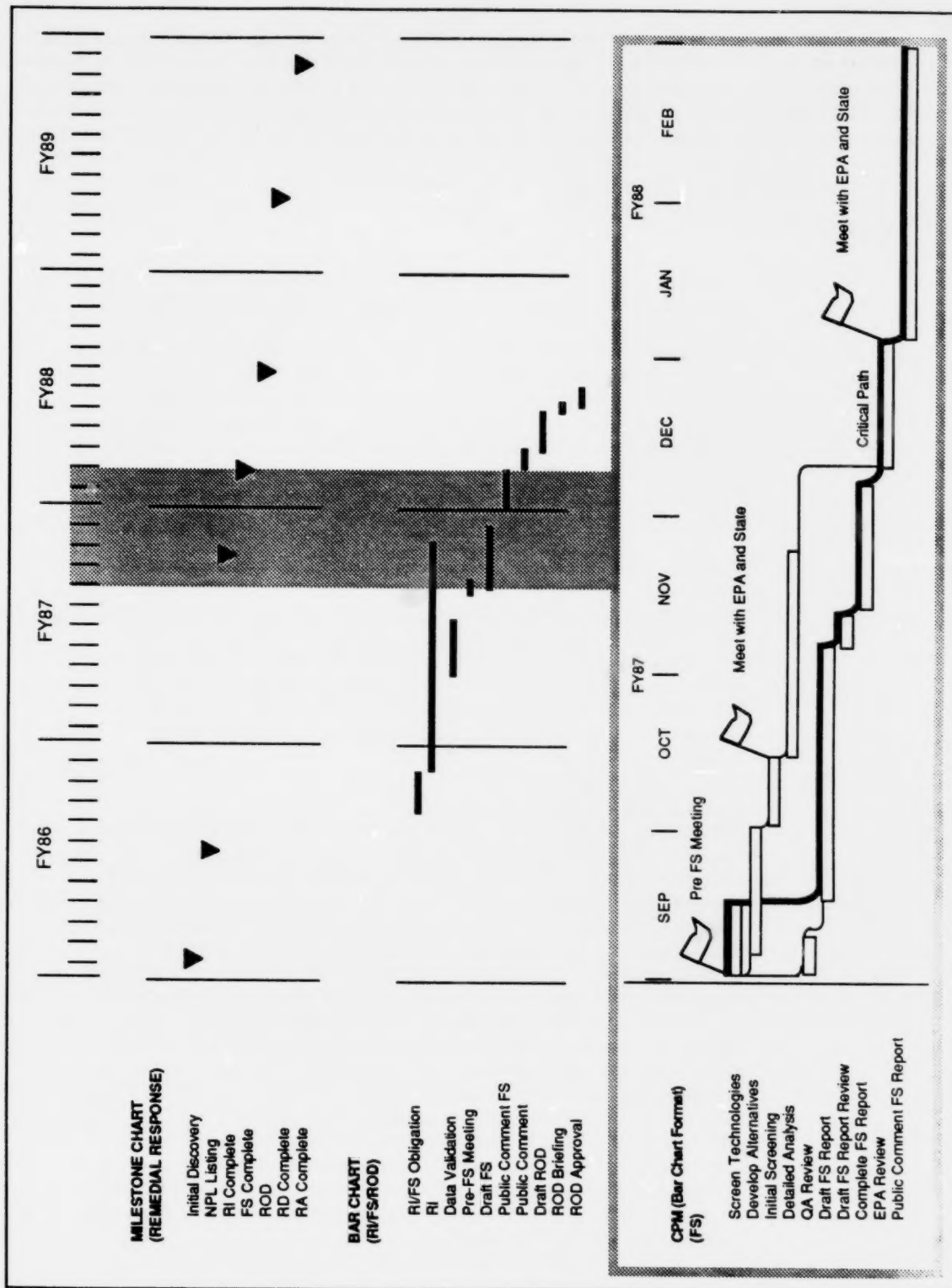
EXHIBIT 2-2
Sequence of Performance of Project Management Functions



Amendments and Reauthorization Act of 1986 (SARA) imposes mandatory schedules for starting new RI/FSs and new remedial actions at NPL sites. Scheduling is necessary to anticipate when project resources (such as funding or analytical support) or participation by others (State reviews, enforcement negotiations) will be needed. It also allows projects to be scheduled to take advantage of external factors such as construction seasons. Depending on the size and complexity of the project, a variety of project scheduling systems may be used. These include milestone checks, bar charts, and critical path method diagrams. Each is discussed below and illustrated in Exhibit 2-3.

- Milestone Charts -- Milestones are major events in the progress of a project and can be used as checkpoints to indicate whether the project is proceeding on schedule. Milestone charts identify the target completion date for each major activity. The milestone chart may include budget information, an indication of the responsible individual, and a means of comparing actual versus planned schedule results. The method is best for small, short-duration projects with few participants and little interrelationship between activities. The shortcoming of this tool is that it forecasts only completion dates. On complex projects, this may lead to uncertainty about when an activity should begin.
- Bar Charts -- This scheduling method is slightly more complex than milestone charting. The bar chart (often referred to as a Gantt chart) presents a list of activities along with horizontal bars denoting scheduled start and finish dates for each activity. The shortcoming of this method as a scheduling tool is that it does not completely reflect interrelationships among activities, nor does it indicate which activities are most critical to project completion. The bar chart is a frequently used scheduling method for the RI/FS.
- Critical Path Method (CPM) Diagrams -- The critical path scheduling method overcomes some of the limitations of the bar chart method by integrating activity interrelationships and schedules. The method consists of systematically identifying all project task interrelationships using a task interface diagramming method. The duration of each task is then defined and the tasks are put in schedule form using either a bar chart or network format. Finally, critical tasks are determined and the path between them is highlighted in the diagram. Determination of critical path by manual analysis is feasible on projects with less than 100 tasks. For projects with greater than 100 tasks, microcomputer CPM software packages are recommended. Although the major advantage of this method is the definition of task interrelationships and critical activities, the main disadvantage is that CPM diagrams are sometimes hard to read and time-consuming to update. If properly maintained they very effectively show task interrelationships and can be used to make changes in work flow and thus avoid slippage in the final completion date. Some RPMs are now using CPM at their sites.

EXHIBIT 2-3 Scheduling Techniques (SAMPLE)



All three of these techniques (or a combination) can be used in the Superfund remedial response process. Exhibit 2-3 shows an example of how each scheduling technique may be used. The milestone chart can indicate key events from site discovery through remedial action. This can provide a status summary of individual sites or can be combined to show status at a number of sites. The milestone chart can be used by the RPM and Regional management to indicate where sites are in the remedial response process at any time.

The bar chart generally is used to expand the level of detail provided by the milestone chart. For example, the RI/FS and ROD milestones can be expanded to show the timing and sequence of activities that the RPM must complete or track to achieve program targets. This provides the key scheduling tool for use by the RPM in his management and control functions.

At the most detailed level of project planning, individual contractors and some RPMs can use CPM networks to schedule and control individual projects with large numbers of tasks. This technique can be used to manage individual tasks at a greater level of detail than can be included in the bar chart. However, the key milestones identified by bar charts must be included in the CPM networks as well.

Used together, the three scheduling techniques can assist in the development of an integrated site scheduling approach. Scheduling of major program activities can be shown with a milestone chart. More detailed identification of tasks can be developed in bar charts and CPM diagrams.

2.2.1.3 Budgeting

Budgets set the cost of the work outlined in the scope and schedule. Establishing the project budget is always a highly project-specific process that is dependant on the nature of the project and the organization executing it. Project budgets can be prepared by one of the following general methods:

- Top-Down Budgeting -- In this method, a pre-set total project budget is subdivided into the individual task budgets. Top-down budgeting is most frequently applied to projects where funding availability is a major constraint, or where the project tasks cannot be well defined prior to implementation. Estimates can be prepared using generic project costs or historical averages for similar projects. Top-down budgeting is appropriately used for initial budgets that do not need to include detailed information on the project tasks, making it unnecessary to generate information by guessing. This method is often the basis for cost estimates in the Superfund Comprehensive Accomplishments Plan (SCAP). An example of a top-down budget element is the fee for an engineering design, which may be a set percentage of total construction costs.

However, this method is not a good tool for monitoring and control, since detailed task budgets are not incorporated. In addition, it does not provide means for comparing budget components with project objectives to ensure that the most effective project approach is being used.

- **Task-Based Budgeting** -- This method involves starting from "zero" to build individual task budgets. These are then summed to obtain the total project budget. Task-based budgeting is appropriate when a pre-determined budget has not been imposed, and is best used when the project scope is well defined and can be subdivided into individual tasks.

Both unit-price and staffing-level budgeting are common applications of the task-based budgeting technique. Unit-price budgeting is used in construction projects when quantities are reasonably well defined. A total project budget is developed by multiplying component quantities by their unit prices and adding appropriate contingencies. However, the need for detailed estimates of quantities makes this technique less suited for engineering studies.

The staffing-level approach is often appropriate for more labor-intensive projects such as engineering studies. This approach involves estimating the labor hours required for each project task and then applying labor rates, overhead, and contingencies to obtain a total budget estimate.

The RPM must be familiar with both top-down and task-based budgeting techniques since both are used in the Superfund program. Top-down budgeting is used for overall program planning in distributing the annual remedial activities budget to individual RI/FS, design, and remedial action projects. This is often accomplished by using standard budget numbers for the different project types. On the other hand, the actual budget found in the work plan for the RI/FS is usually a staffing-level, task-based budget.

One issue with which the RPM must deal in the budget planning process is the need to estimate funding for future activities at a site. Since the entire remedial response project at a site spans several years and is made up of numerous activities, the RPM will be asked to prepare budget estimates for out-year plans, including design and construction activities. These estimates are subject to a number of uncertainties. For example, inflation rates can change and the actual remedy is often not known when the initial budget is estimated.

2.2.1.4 Organizing

The method of organizing personnel and other resources to accomplish the project objectives is highly variable and depends upon the type and size of the project and the objectives to be accomplished. In most cases, a pyramidal hierarchy is the organizational form selected, with the project manager at its apex. This arrangement vests the accountability for total project execution in a single individual, even though a large number of individuals may be directly responsible for the execution of specific project tasks. This requires both a project manager who is willing to accomplish goals through delegation and an organizational structure with good channels of communication.

Although many REM contractor project teams are organized using this traditional pyramidal hierarchy, the larger structure in which the RPM operates is different. The RPM is the principal contact between EPA and the REM contractor. The RPM's management responsibilities involve working with a number of organizations within and outside EPA. The RPM does not directly manage on-site activities, but must take an active role in site management responsibilities by interpreting EPA policy and procedures as they apply to the site and coordinating the participation of the numerous

involved parties who do not communicate directly with each other. This role of the RPM as coordinator is defined further in a later section of this chapter.

2.2.2 Monitoring

The primary method for monitoring site project activity is by comparison of actual events with the schedule and budget developed in the planning phase. This can be accomplished by progress review meetings in conjunction with obtaining regular reports on project status so that the actual schedule and budget can be compared to the planned targets. These reports must therefore:

- Estimate progress of each task toward its objective
- Estimate or detail project expenditures
- Determine the schedule status of each task
- Determine the budget status of each task
- Determine the overall schedule and budget status.

Monitoring and reporting of Superfund project schedules can be conducted using milestone, bar chart, and CPM scheduling techniques. Milestone scheduling is appropriately used for monitoring key remedial response activities that can be conducted independently of other activities. This method is more suitable for monitoring performance than determining adverse schedule impacts, which can be identified with bar charts and CPM networks. Bar charts and/or CPM networks can be used when durations of sequential activities are related and delays in earlier tasks can impact follow-on tasks. The bar chart and CPM techniques help identify critical dates on related tasks that must be met in order to complete the overall project on schedule. The RPM may use this information in the short term to ensure that critical milestones of the current project are met (e.g., remedy approval). These techniques can also be used for long-term management by advising Regional management of delays that could affect schedule and budget decisions in follow-on work (e.g., RD and RA).

Monitoring and reporting of the budget status will depend upon the intended use of the information. The RPM will generally use budget reports for two purposes. First, budget reports will be used to assure that a particular activity is being accomplished according to its overall schedule and within its budget ceiling. Second, they will be used to identify when budget variances occur that require additional project funding. This may result in a modification to the Regional SCAP. Techniques to control schedule and budget variances are discussed in the following sections.

In addition to the normal process of monitoring the schedule and budget, the RPM must perform a variety of other monitoring functions, depending upon the phase of activity at a given site. Examples of events to be monitored include:

- Performance of the remedial contractor's scope of work, e.g., review of contractor deliverables to ensure technical quality
- The USACE design and construction contractor selection process and progress after award
- The review of construction change orders.

Many of the monitoring and reporting methods by which the Agency and individual Regions track progress for specific site remedial activities and provide

necessary management support and review of the work are described elsewhere in the handbook. These will not be addressed here.

2.2.3 Control

Trend analysis allows the project manager to gauge the importance of variances that are identified from the schedule and budget reports obtained through monitoring activities. Study of schedule and budget trends, in addition to direct observations of project performance, can be highly informative, particularly when update reports on the schedule and budget are available on a regular basis. Changes in cash flow trends as a function of time, a steady deterioration in schedule status or deliverable quality, and negative trends in progress toward completion with coincident higher-than-planned cash flow are indicators of a project with problems.

Project progress meetings on project deliverables and schedule and budget reports can identify variances from the plan that are either long-term trends or immediate events. The process by which the project manager responds to a particular management issue will vary based on the nature of the problem. Control is by definition proactive, rather than a passive process (as is monitoring), and must be rigorous in dealing with factors having potential negative impact on achievement of task or overall project objectives.

Variances can be avoided or controlled by taking preventive or corrective actions. The three basic types of actions may be summarized as follows:

- Anticipatory Actions -- Modify external factors in such a manner that project variances do not occur
- Work-Around Strategies -- Respond to an existing negative variance, usually schedule or budget, to accommodate changes, but at no impact to the overall project plan
- Plan Modifications -- Accommodate variances by altering project budget, schedule, or scope.

(Note: Anticipatory actions and work-around strategies are generally preferred to plan modifications.)

Control measures the RPM may take usually involve one or more of the above actions. The following are a few examples of such measures:

- Anticipatory Actions
 - Request USACE assistance in technical oversight of REM planning contractor efforts to facilitate the transfer of responsibility to USACE at the design phase
 - Limit document reviews to essential parties and maintain strict review schedules
 - Coordinate analytical needs with Contract Laboratory Program (CLP) activity

- Increase direct observation of field activities to ensure that program requirements are being met and avoid otherwise unnecessary field efforts
- Be aware of upcoming project milestones and associated EPA reviews or approvals.
- Work-Around Strategies
 - Use additional laboratory support to ensure timely turn-around of sample data
 - Streamline requirements for contractor work products to avoid repetition of data or other information
 - Minimize plan revisions due to contractor-controlled schedule slippage/cost overrun
 - Try to limit situations where significant new information arises that necessitates a change in scope.
- Plan Modifications
 - Issue work assignment amendments to adjust the budget and/or schedule resulting from work scope changes
 - Revise the SCAP for subsequent funding
 - Revise the milestone or bar chart schedule (e.g., delay RD/RA one construction season)
 - Revise critical path endpoints or schedule milestones for a specific project plan.

Exhibit 2-2 shows the relationship of project planning, monitoring, and controlling functions. As the exhibit illustrates, the functions are interrelated and all must be employed to achieve effective project management. Each involves techniques applied at various stages in the project execution. However, the final areas of RPM responsibility to be discussed -- directing/coordinating/communicating -- continue throughout all project stages.

2.3 DIRECTING, COORDINATING, AND COMMUNICATING

As a general rule, the larger the project budget, the more important is the coordinating and communicating function of the project manager. The RPM needs to coordinate project activities at several levels. It is necessary to coordinate internally with programs that provide services to the project (e.g., analytical data reviews), offices responsible for other environmental laws (e.g., Resource Conservation and Recovery Act and Toxic Substances Control Act), and organizations external to EPA (e.g., USACE and the Agency for Toxic Substances and Disease Registry [ATSDR]). Without these inputs at the appropriate times, project delays could occur. Close coordination between the RPM and contractor is also needed to make sure that the project objectives are being met. In addition, such coordination will help the RPM and contractor identify and

correct problems before they adversely impact the project. Finally, the RPM needs to coordinate all major activities with the State in order to avoid misunderstandings and delays. By keeping the State informed, the RPM can increase the likelihood of prompt State reviews and beneficial input at various project decision points.

Communication among the RPMs within the Agency is also important. Innovative solutions to complex problems have been developed through experiences at various sites. RPMs should learn from these experiences by communicating with other RPMs (within and outside the Region) and Headquarters staff to anticipate or avoid similar problems.

Since a large portion of the work is being done by private contractors who are not always familiar with all program policies and goals, the coordinating and communicating skills of the RPM are a major factor in project success.

The unique problems associated with Superfund sites require the RPM to play a key role in ensuring project quality. The RPM is the single EPA individual responsible for directing the contractor staff in a number of technical and policy areas. Areas in which the RPM should be knowledgeable in order to ensure the technical quality of site-related work include:

- Sampling and analysis of contaminated media
- Environmental fate and transport analysis
- Risk and exposure assessment
- Evaluations of remedial technologies
- Environmental impact evaluation
- Cost estimation
- Remedial design and construction considerations.

In addition to these technical areas, the RPM should be familiar with environmental regulations and policies that will affect how the technical disciplines are applied to a particular site. The RPM can provide adequate quality assurance review of project activities and be effective in the directing, coordinating, and communicating role by integrating technical, regulatory, and policy areas.

The management skills and tools described in this chapter can be applied to all phases of the remedial response process. The following chapters discuss the detailed responsibilities of the RPM as they relate to the individual phases of site activity.

ADDITIONAL SOURCES OF INFORMATION

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3. INITIAL PROJECT PLANNING AND START-UP ACTIVITIES

In Chapter 2, some basic concepts of project management were introduced. These concepts included planning, monitoring and control, directing, coordinating, and communicating. The focus of this chapter is project planning and its relationship to monitoring and control. This chapter generally addresses activities to be performed before and during the early stages of the RI/FS. It is divided into four major sections:

- Development of a site management plan
- Activities required before starting the RI/FS
- RI scoping and development of general response objectives
- Procedures for issuing work assignments to a REM contractor.

Exhibit 3-1 illustrates all the activities that occur during the initial project planning and start-up phase of a remedial response. The top half of the diagram represents those activities that are the responsibility of the REM contractor or the USACE and the bottom those that are the responsibility of EPA.

The RPM responsibilities described in these sections are based largely on information contained in existing EPA guidance documents, particularly:

- *State Participation in the Superfund Program*, Volume I, February 1984 (called the *State Manual*)
- *Work Assignment Procedures for Remedial Contracts*, November 1986 (Appendix B).

For additional background information on any of the subjects discussed in this chapter, the RPM should review these two documents.

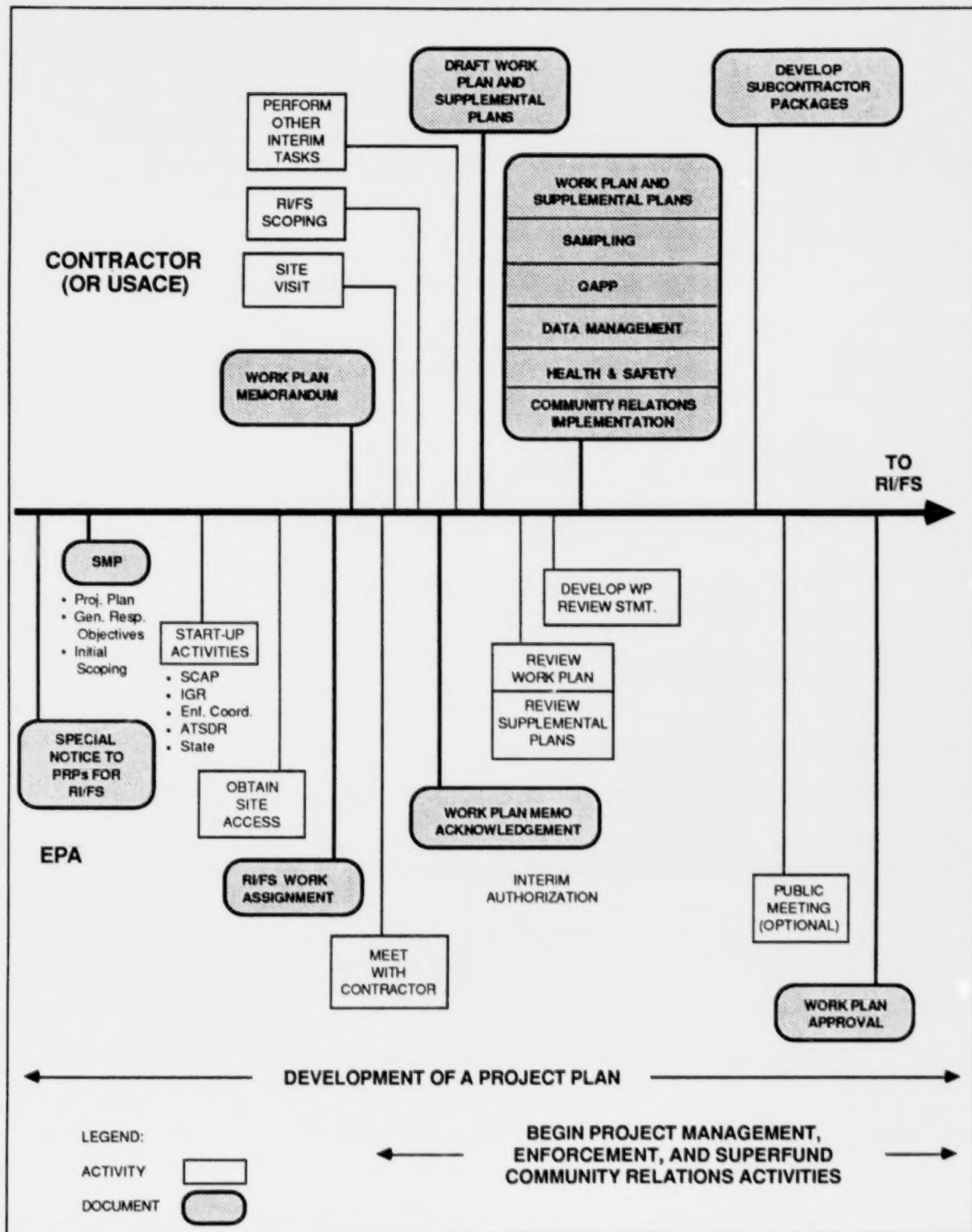
3.1 DEVELOPMENT OF A PROJECT PLAN

The project plan, or site management plan, is the means by which the RPM can monitor progress and exert control. The use of a project plan can promote efficiency through better projection of resource needs, provide a baseline by which progress is monitored, and increase RPM effectiveness by allowing the RPM to focus on elements along the critical path.

The project plan referred to here is not the work plan prepared by the REM contractor. The project plan is an in-house document that looks at the remedial project as a whole: planning, design, and construction. The project plan is a management tool that ties scope, budget, and schedule together.

Contractor assistance is available for project plan development, however. In addition to making technical resources available to the Region, the use of a REM contractor to assist in project plan development is a good way to involve the REM contractor early in project planning. Procedures for accessing the REM contractor are described in Section 3.4.

EXHIBIT 3-1
Initial Project Planning and Start-up Activities



The project plan should be dynamic in order to respond to changing project and program needs. The plan provides a baseline against which progress is monitored. Analysis of the results from project monitoring leads to action (control) that can include revision of the project plan. Revision of the project plan should occur frequently enough to respond to changing needs and circumstances but not so frequently so as to lose its advantage as a baseline.

Two additional points should be considered when developing a project plan. First, the plan is only the means to the ultimate objective which is the timely remediation of a hazardous waste site at a reasonable cost. Second, the simpler the planning tool is to use, the more it will be used and the more useful it will become.

The following is a suggested approach for developing a project plan that reflects good management practices and is generally consistent with ongoing pilot projects discussed below. It is not the only approach that might be followed, however. Each site has unique objectives and circumstances, and a project plan should reflect these. On the other hand, some similarity in plan format and output is desirable in order to enhance ease of use. The format of a project plan can vary from the completely narrative to a collection of diagrams and tables. The suggested approach is a combination of the two. The basic organizational structure of the project, the project objectives, the delineation of responsibility between involved parties, and other items of this nature might best be put in narrative form with diagrams. These items tend to change less during the course of the project. Items that change more frequently, such as schedules, milestones, and budget figures, are more appropriately put in a data base for ease of manipulation. The data base format should be the same for all projects in order to allow the site-specific information to be combined into program planning reports. Also, the data base can be linked to project management software to produce bar (Gantt) charts and critical path networks. The remaining discussion focuses on the data base portion of the project plan, the format of which is common to all project plans.

The baseline project plan needs to encompass all the goals, criteria, limitations, and constraints imposed on the site project. It should be the best estimate of the activities and resources necessary to complete the site work available to the RPM at the time the estimate is made. The monitoring process should be designed to report on the actual expenditures of the resources necessary to accomplish each activity within the project. The reporting format should match the planning format so that variances can be quickly identified and analyzed by management. Whether the variance is over or under plan, management must decide one of two things: Have conditions changed such that the initial plan needs to be modified or can procedures be changed to conform activities to the baseline plan at some time in the future? The continuing process of going through these steps will contribute significantly to successful completion of the project.

In most programs, the data base of planning and monitoring information originates with the smallest unit within the program (here it is the specific project site activities), and "rolls up" to provide reports to various levels of management as required. The foundation of the program planning function is the project plan. This planning document is the vehicle and communication link among the RPM, EPA Regional management, and the contractors. It contains all information necessary to identify, plan, and monitor the key elements of each project. An outline format of a project plan is provided in Exhibit 3-2. Its flexible format will provide a common data base for program management staff to use in the analysis and control of program delivery. (It is preferable that the format of the project plan and the format of the contractor status reports be consistent with regard to which milestones/tasks are identified.)

As the project proceeds, changes are made in the project plan. A distinction should be made between minor changes to schedule and cost data (referred to here as updates) and substantial changes to cost, schedule, scope, or project organization (referred to here as revisions). The project plan is updated to reflect minor schedule slippages or cost overruns, or when key milestones are reached. Updating should occur as new information is made available, e.g., when monthly contractor progress reports are provided to the Region. On the other hand, attempts should be made to minimize the frequency of project plan revisions. Project plan revisions are made when new information necessitates a significant change in scope or project organization, or when large variations in schedule or cost occur. Generally, project plan revisions are used as a last resort when anticipatory actions or work-around strategies are ineffective in maintaining the project according to plan.

In Exhibit 3-3, a suggested interface between the project plan and the remedial process is presented. This is generally consistent with ongoing project management pilot studies. The flags on the right-hand side indicate major milestones that should be planned and tracked as part of project monitoring. Arrows in the left-hand column identify the strategic points within the overall process where project planning should be conducted or updated. The project plan is the mechanism for the planning process, and should be reviewed (and updated or revised, as appropriate) at approximately the points indicated by Project Plan 1, 2, 3, etc.

Progress reports should be prepared on each individual site project within the program. The reports should contain current performance data such as labor and expenses to date as well as projected cost and time to project completion. These data would be incorporated in a project data base in the same format used for the project plan. Status reports from the data base can provide users with actual versus planned status information for each project element. This makes forecasting possible to anticipate future activities as well as to identify the need for changes in current activities to keep the project on schedule. The cycle of project plan development, monitoring, and analysis for a site as it moves through the remedial program "pipeline" is shown in Exhibit 3-4.

The project plan is intended to be a "living document". Each revision or update of its components should bring the site clean-up time and cost picture into clearer focus. Casual revisions to a project plan should be avoided since it is a baseline plan to be followed, to the maximum extent possible. However, when significant new pieces of information are available that substantially alter the project parameters, they should be incorporated into the baseline plan and be reflected in either a scope, schedule, or cost revision.

A list of milestones and activities that could be tracked for each of the four project plan iterations (shown in Exhibit 3-4) is presented in Appendix A. As the project moves through remedial response, the focus of the planning, monitoring, and control activities moves sequentially through the project plans.

EXHIBIT 3-2
Project Plan Outline

1. Project Description
 - a. Project name
 - b. Project identification number
 - c. Project location
 - d. EPA Region responsible
 - e. EPA RPM responsible
 - f. Project plan number and date
2. Objectives, Goals, and Initial Scoping
3. Major Milestones and Constraints
 - a. Identify and set target durations for all major milestones (i.e., pre-RI/FS, RI, FS, ROD, etc.)
 - b. Identify and schedule all activities to be accomplished at the next milestone
4. Labor and Cost Estimates
 - a. Estimate contractor cost required per activity or milestone
 - b. Estimate CLP usage
 - c. Estimate the cost of design and construction of the clean-up procedures

EXHIBIT 3-3 **Project Plan Interface with the Remedial Process**

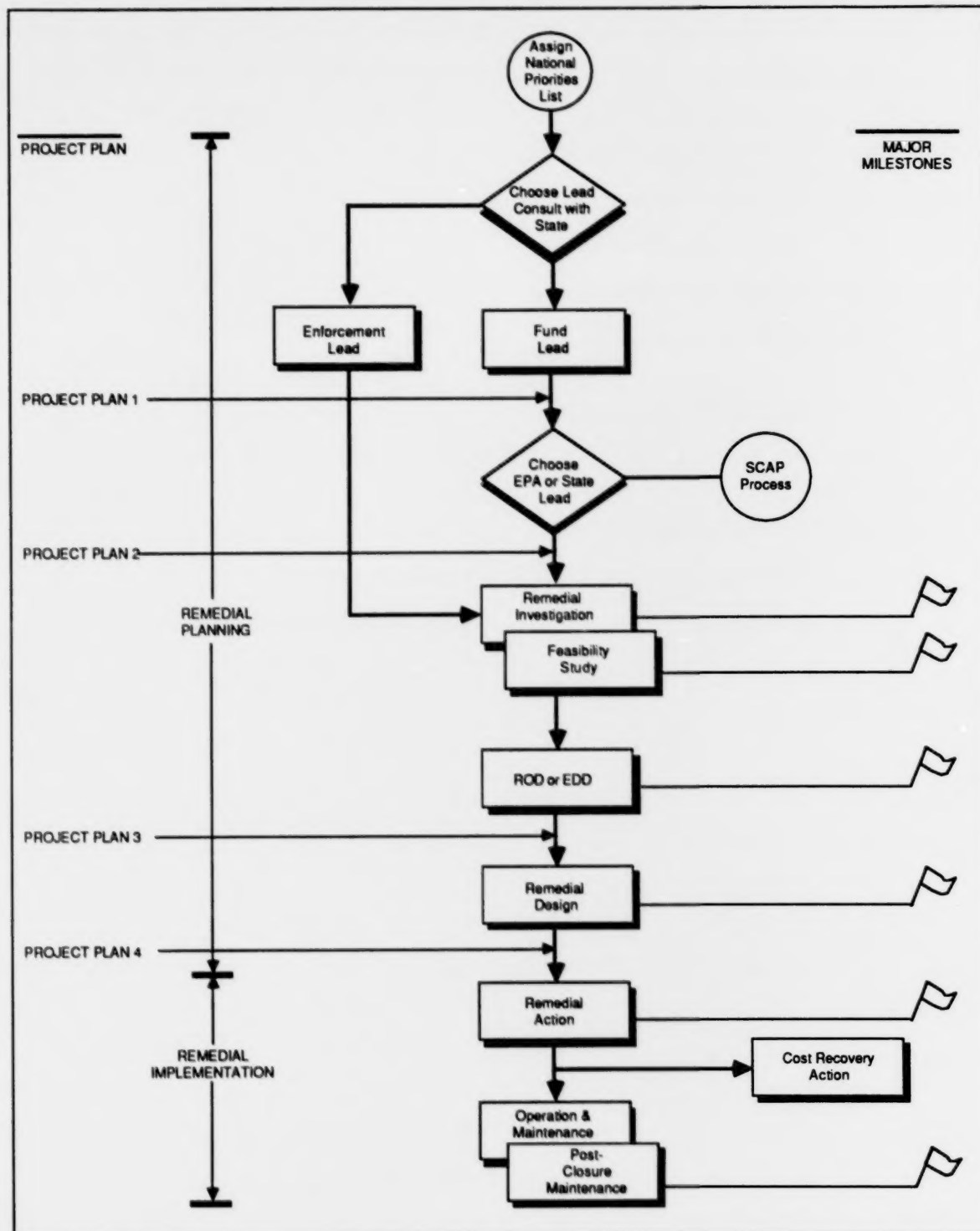
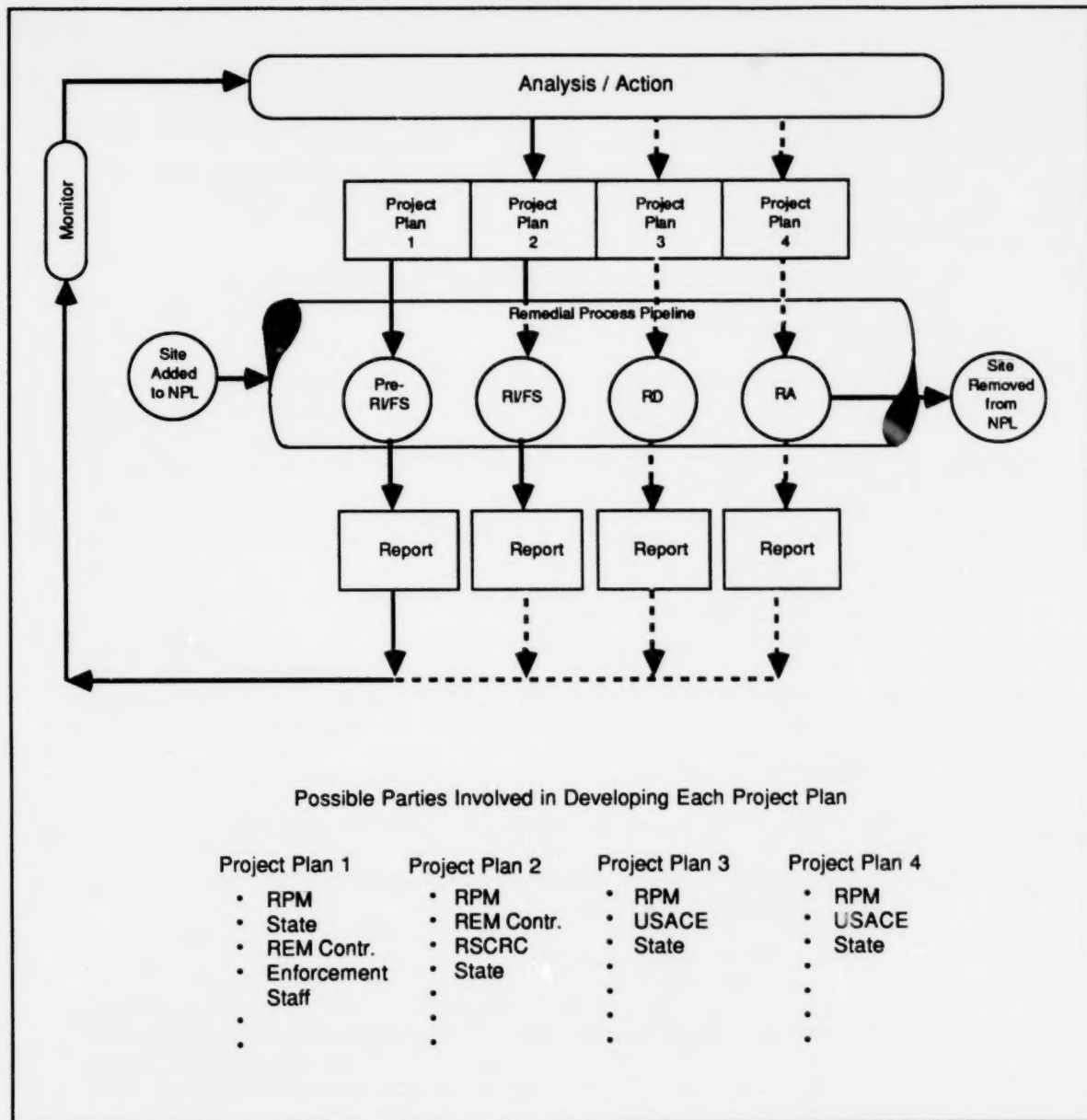


EXHIBIT 3-4
Project Planning, Monitoring, and Control Cycle



- Project Plan Iteration 1 would include detailed planning for only the pre-RI/FS activities. Each of the other major milestones would be treated as one activity unless enough data were available to subdivide them into more discrete elements.
- Project Plan Iteration 2 would be done at the beginning of the RI/FS phase. Note that only the milestone start and finish dates and total costs are included for activities preceding and following the RI/FS.
- Project Plan Iteration 3 would be prepared after completion of ROD and enforcement activities, and would include schedule and cost data for the RD phase.
- Project Plan Iteration 4 would be prepared to outline the RA activities. Again, only summary milestone and cost data would be provided for preceding activities.

A pilot study is currently ongoing for the purpose of applying the management concepts of planning, monitoring, and control to Superfund projects. The pilot study is being conducted initially in Region II, but may be expanded to other Regions. It is being applied to fund-lead and enforcement-lead remedial projects and to removal projects.

The approach used in the pilot studies is to establish a baseline plan, monitor project progress in order to make comparisons with the plan, and exercise control actions when appropriate. The participating Region is using commercially available project management and data base software on microcomputers to track project milestones and tasks. The software being used allows the Regions and RPMs a great deal of flexibility in choosing the level of detail desired for efficient project management. Of the three primary project variables: (1) technical scope, (2) cost, and (3) schedule, the primary focus of the pilot is initially on schedule, with cost to be evaluated later. The software being evaluated in the pilot study is capable of providing on a single Gantt chart:

- Major task-level tracking
- Milestone tracking (major start/end dates and deliverables)
- Dependencies of tasks/milestones on each other to allow critical path scheduling
- Planned versus actual scheduling.

It is envisioned that the pilot studies will improve both project and program management. The use of a project plan should improve the RPM's ability to monitor and control project progress. At the same time, data from individual projects can be combined into overall status reports for Regional and Headquarters management needs using data base software.

3.2 ACTIVITIES REQUIRED BEFORE STARTING RI/FS

Prior to the development of the remedial planning work assignment, there are several preliminary actions with which the RPM will be involved. The RPM should consider the duration and appropriate starting times for these actions, as discussed in the following narrative. Generally, these actions should be started in the quarter preceding the quarter in which the work assignment is planned. A few of these preliminary actions are shown in Exhibit 3-1 and are included among those listed below:

- Coordination of activities with enforcement/cost recovery staff
- Input to the SCAP
- Obtaining site access
- Initiation of intergovernmental review procedures
- Coordination with community relations staff
- State involvement in the remedial process.

This section will discuss the RPM's specific responsibilities for each of these initial activities. Exhibit 3-5, on the following pages, summarizes these responsibilities.

3.2.1 Coordination of Activities with Enforcement and Cost Recovery Staff

The RPM is responsible for assisting in the development of enforcement and cost recovery actions against potentially responsible parties (PRPs). A key determination to be made at this point is whether or not the PRPs are going to perform the RI/FS. The Superfund Amendments impose a mandatory enforcement negotiations moratorium period during which EPA provides notice to all involved parties. Upon receipt of special notice, PRPs have 60 days to submit a proposal to undertake or finance the RI/FS. If PRPs do not submit a good faith proposal within this time, EPA may proceed with a fund-financed RI/FS. If EPA determines that a good faith offer has been submitted by the PRPs within 60 days, the moratorium continues for 90 days after issuance of notice while EPA evaluates the proposal. If the PRPs' proposal is found to be satisfactory, then the project should be conducted as an enforcement-lead project. If not, the project can continue as a Federal-lead project. Additionally, there are three other enforcement activities with which the RPM will become involved :

- Sharing and receiving information about PRPs with State and EPA enforcement staff to determine the viability of an enforcement action
- Establishing site files and documenting all steps taken during the remedial response to support any future cost recovery actions
- Working closely with the REM contractor to make sure that the contractor's project manager is aware of the provisions regarding enforcement, cost recovery, and the contractor's responsibilities for providing evidence and documentation.

EXHIBIT 3-5 Initial Activities

ACTIVITY	RPM RESPONSIBILITIES	REFERENCES
1. Coordination of activities with enforcement/ cost recovery staff	- Share information about responsible parties with State and EPA enforcement staff to determine the viability of an enforcement action and issue special notice to PRPs for RI/FS negotiations moratorium - Establish site files and document all steps taken during the remedial response to support any future cost recovery actions - Work closely with the REM contractor to make sure that the contractor's Regional Manager is aware of the provisions regarding enforcement, cost recovery, and the contractor's responsibilities for providing evidence and documentation.	<i>CERCLA Enforcement Attorney's Manual</i>, April 1984 <i>Cost Recovery Actions Under CERCLA</i>, August 1983 <i>"Procedures for Documenting Costs for CERCLA 107 Actions"</i>, January 1985
2. Input to the Superfund Comprehensive Accomplishments Plan (SCAP)	- Ensure that the proposed project is adequately funded by the SCAP - Provide site-specific activity and financial information and schedules to the Regional SCAP representative - Review the SCAP and initiate adjustments and/or amendments when necessary - Review current and potential SCAP schedule commitments with REM contractor.	See current year SCAP
3. Obtaining site access and permits	- Support the State in obtaining site access and permits - Identify all permits that may be required - Meet with State representative to discuss strategies - Obtain legal advice from the Office of Regional Counsel - Foresee project delays and added cost attributable to limited site access or permit problems.	

EXHIBIT 3-5
Initial Activities (Continued)

ACTIVITY	RPM RESPONSIBILITIES	REFERENCES
4. Initiation of intergovernmental review procedures	- Initiate intergovernmental review of all remedial projects - Monitor SCAP to determine the time of projected obligation - Formally notify the single point of contact (SPOC) in the State of the proposed action at least one quarter prior to planned start date - Prepare written explanation and response to the State's comments - Ensure that the Federal-lead agreement package contains the following required materials: - A copy of the notification letter sent to the State - A copy of the State recommendation and the response to the notification letter - Other letters commenting on EPA's proposed action. - Assist in development and review of the Community Relations Plan (CRP). - Review the State letter of request and provide comments to the Regional Administrator, if necessary.	<i>State Manual</i>, Appendix D, February 1984 40 CFR Part 29
5. Coordination with community relations staff		<i>Community Relations in Superfund: A Handbook</i>, Draft, March 1986
6. Involvement of the State in the remedial process		<i>State Manual</i>, February 1984

It is important that the RPM meet with Regional enforcement staff early in the remedial planning process to discuss any relevant information on the site that may be of use in developing a cost recovery case against a PRP. Because cost recovery actions typically lag several years behind the remedial process, it is important that well organized, comprehensive files be kept. This responsibility is assumed by the RPM in some Regions, while in others it is assumed by enforcement staff.

The collection and maintenance of proper documentation and the development of quality site files are important to the development and implementation of a successful enforcement and cost recovery action. In general, quality site files are also essential to successful project management. Potential evidence concerning the site and PRPs must be noted and documented before the response activity or the passage of time may obscure or destroy it. Physical evidence essential at trial must be collected and preserved appropriately. The RPM should make sure that Regional files document and support all actions taken at the site. Documentation should be sufficient to identify the sources and circumstances of site problems, provide an accurate account of Federal costs incurred, and demonstrate actual and potential impacts to public health and welfare or to the environment. Files should include a signed copy of the Action Memorandum. Other communications, memoranda, and relevant documents may also be included in the file, as appropriate. For additional details on record maintenance in the Superfund program, the RPM should consult:

- *Procedures for Documenting Costs for CERCLA 107 Actions*, January 1985
- *Cost Recovery Actions Under CERCLA*, August 1983
- Appendix U of the *State Manual*.

The RPM should contact the contractor's Project Manager to make sure that the contractor is aware of the provisions regarding enforcement, cost recovery, and the contractor's responsibilities for providing evidence and documentation. These procedures are summarized in the next chapter on RI/FS and are fully described in the *National Enforcement Investigation Center (NEIC) Policies and Procedures Manual*, February 1983.

3.2.2 Input to the Superfund Comprehensive Accomplishments Plan

The SCAP is an EPA management plan that lists site-specific Superfund financial allocations for each fiscal year. Prior to the beginning of a fiscal year, each Region must draft and submit a site-specific list of remedial activities, schedules, and estimated costs. Several months before the start of the fiscal year, the RPM should begin work on the SCAP by estimating the costs that will be required for each site. RPMs should become familiar with the SCAP process and the SCAP for the current fiscal year.

The draft SCAP undergoes a series of Regional and Headquarters reviews and revisions before finally being approved by the Assistant Administrator for the Office of Solid Waste and Emergency Response (AA/OSWER). An important RPM responsibility is providing site-specific activity and financial information and schedules to the Regional representative who compiles, adjusts, and amends the SCAP, as well as making the REM contractor aware of the SCAP commitment and schedule as they apply to the contractor.

It is important for the RPM to make sure the project funding needs are reflected in the SCAP. The RPM also is responsible for initiating SCAP adjustments and amendments when necessary. For example, as soon as it is known that the planned project budget will exceed the funds provided in the SCAP, the RPM should request an adjustment through the Regional SCAP coordinator. Adjustments are modifications to the SCAP that neither alter the number of activities originally set forth nor exceed the Regional advice of allowance (e.g., replacing one RI/FS with another of equal magnitude). Amendments are modifications that increase or decrease the "new starts" targets or exceed the Regional quarterly advice of allowance (e.g., when an RI/FS scheduled to start during the first quarter will not begin until the second).

3.2.3 Obtaining Site Access

Obtaining site access for remedial planning activities is a critical path activity that should begin as early as possible. The State is responsible for obtaining site access; however, the RPM should be prepared to assist the State in this effort. The RPM should encourage the State representative to identify specific site access requirements and to develop a strategy and a schedule for obtaining access that will not delay field work startup for the RI/FS. Access, even when obtained, may be restricted. For example, access for field work near a highly traveled roadway may be allowed only during non-peak traffic hours. The RPM must consider the impact of any access restrictions on schedules and budgets.

Site access may be difficult to obtain in some cases. The State representative should consult with State legal officials to determine the appropriate approach or mechanism to obtain site access. If voluntary access cannot be obtained, the State must use all its available legal authorities to obtain site access before EPA will consider taking legal actions under its authorities. SARA has strengthened EPA's site access authorities. The RPM should consult with the Office of Regional Counsel (ORC) and the Hazardous Site Control Division (HSCD) Regional Coordinator for assistance and current policy guidance on site access issues.

3.2.4 Initiation of Intergovernmental Review Procedures

The RPM is responsible for initiating intergovernmental review of all remedial projects. This involves two sets of procedures, one to be followed for States that have developed a formal review process that includes the Superfund program and one to be followed for States that have not. For further details on intergovernmental review the RPM should consult Appendix D of the *State Manual*. The RPM must be particularly concerned with:

- Identifying the designated State's single point of contact (SPOC) and the State's review procedures
- Formally notifying the SPOC, if one has been designated, at least one quarter prior to the RI/FS obligation quarter identified in the SCAP
- Providing appropriate review opportunity to the State within overall project requirements (e.g., submitting documents to all reviewing entities, briefing critical State staff, etc.)

- Preparing EPA's "accommodation or explanation" of the process recommendations, if one is transmitted through the SPOC. This means that EPA must do one of the following:
 - Accept the State recommendation
 - Reach a mutually agreeable solution
 - Provide the SPOC with a written explanation for not implementing the recommendation.

In the latter case, the RPM must prepare a letter for the Regional Administrator's signature, informing the SPOC of the reasons for non-accommodation; a copy of each non-accommodation should be sent to the Chief, Grants Policy and Procedures Branch (PM-216), EPA, Washington, D.C. 20460, (202) 382-5268. If the situation is controversial, the RPM must consult with this Branch Chief before taking action.

The RPM must include the following materials pertaining to the review in the Federal-lead agreement package:

- A dated copy of the letter notifying the SPOC of a proposed remedial project
- A copy of the State recommendation, if any, and the Regional Administrator's response to the SPOC, if the recommendation differs from EPA's proposed action
- Any other letters commenting on EPA's proposed action, including opinions of reviewers differing from the State recommendations.

The RPM also is responsible for summarizing the results of the intergovernmental review in the Decision Memorandum which is prepared as part of the concurrence package for each remedial response agreement with the State.

3.2.5 Coordination with Community Relations Staff

The RPM is responsible for contacting the Regional Superfund Community Relations Coordinator (RSCRC) to provide information and assistance, if necessary, in developing and reviewing the Community Relations Plan (CRP). The CRP documents planned community relations activities. In some cases, the State may develop and implement the CRP for a Federal-lead site. It is important that the RPM closely monitor development of the CRP to ensure that it is prepared in a timely manner and addresses critical site issues. If this is not done, initiation of on-site activities may be unnecessarily delayed. The RPM should consult *Community Relations in Superfund: A Handbook*, Draft, March 1986.

3.2.6 Involvement of the State In the Remedial Response

The Superfund Amendments provide broad authority and an extensive list of requirements for State involvement in every phase of the Superfund program. EPA will be developing guidance concerning State involvement that will provide for:

- Participation in long-term planning for all remedial actions in a State
- Reasonable opportunity to review and comment on planning documents, technical data, engineering designs, or proposed findings and decisions to waive requirements
- Notification of an opportunity for participation in negotiations with PRPs
- Notification of and opportunity for comment on the proposed plan for remedial action and other plans under consideration
- Concurrence in deleting sites from the NPL.

The RPM should contact the appropriate State officials to discuss the site and EPA's remedial program processes. It is very important to get the State involved as early as possible in the process and to learn of any State environmental standards or requirements that may apply to the site in question.

When EPA has lead responsibility for remedial planning activities at a site, two options are available for initiating the project:

- EPA and the State may submit a series of letters outlining the scope of activities that EPA will undertake and the ways the State will coordinate with EPA during those activities, or
- EPA and the State may enter into a remedial response agreement.

It is left to the discretion of Regional and State staff to select the appropriate vehicle for the project at the site in question. However, the use of EPA/State letters requesting EPA assistance is the simpler, more direct, and more commonly-used approach. Additional guidance on preparing and executing EPA/State remedial response agreements is provided in the *State Manual*.

The EPA/State letters function as a "paper trail" to document the remedial planning project. This process involves a series of correspondence between EPA and a State. EPA's letter defines the scope of the proposed activities and requests State cooperation in certain site-related tasks. The State's letter documents State concurrence on the response and outlines how the State will interact with EPA during the project. A remedial response agreement between EPA and a State defines the scope of work for the project and the specific responsibilities of the respective parties.

In almost all cases, the selected option is the EPA/State letters approach, which is a two-step process. First, the RPM prepares EPA's letter to the State agency, outlining the project that EPA is proposing to undertake. This letter may be site-specific or may cover activities at several sites, but should accomplish the following:

- Define the objectives, scope, schedule, and estimated cost of the project
- Designate the RPM for the site
- Request that the State provide information on the site and access to State files

- Request that the State obtain necessary permits and site access
- Estimate the likelihood of State cost-sharing responsibility (especially for publicly owned or operated sites)
- Describe any tasks to be performed by the State
- Allow for State review of the site-specific work plan, CRP, and site safety plan before field activities begin
- Allow for provision to the State of intergovernmental review comments and EPA response.

The RPM should be sure to address any site-specific requirements, as appropriate.

In the second step, the State letter is developed in response to EPA's letter and acknowledges State concurrence with the EPA-lead response. Although the State's letter will usually be addressed to the Regional Administrator, the RPM must review the letter and provide comments to the Regional Administrator, if necessary. The RPM should ensure that the State's letter does the following:

- Indicate State concurrence on the project
- Designate a State Project Officer (SPO)
- Confirm that the State will obtain (or has obtained) site access and necessary permits
- Demonstrate that the State is aware of its statutory obligations for cost sharing, off-site treatment, storage and disposal, and O&M, at the necessary phase of the response
- Agree to review the site-specific work plan and associated work products, if the State desires
- Agree to meet with EPA periodically to discuss site progress and issues that arise.

If there are problems with the State's letter, the RPM should contact the designated SPO to discuss and resolve them.

3.3 REMEDIAL INVESTIGATION SCOPING AND DEVELOPMENT OF GENERAL RESPONSE OBJECTIVES

Prior to developing work plans and conducting the RI/FS, there are two crucial steps that shape the execution of these subsequent project planning and RI/FS activities:

- Initial RI Scoping involves the collection and analysis of existing site data; this sets the basis for developing the RI sampling plan based on outstanding data needs, such as the data necessary to define the "problem" and to evaluate alternative solutions

- General Response Objectives, or classes of response, should be identified in order to focus the scope of the RI/FS.

Each of the activities is discussed in detail in:

- *Guidance on Remedial Investigations Under CERCLA*, June 1985
- *Guidance on Feasibility Studies Under CERCLA*, June 1985.

These documents will hereafter be referred to as the *RI Guidance* and *FS Guidance*, respectively.

Contractor participation in the development of a site management plan, identification of general response objectives, and initial RI scoping can be secured through either a forward planning work assignment or an interim RI/FS work assignment. These activities are primarily the responsibility of the RPM, but assistance from the contractor is available. Procedures for issuing interim work assignments to the REM contractor are discussed in Section 3.4. The RPM should ensure that the contractor receives all relevant site information. This may include:

- Preliminary Assessment and Site Inspection (PA/SI) data
- Technical Assistance Team (TAT) information
- Emergency response removal action data
- Contractor files
- State files.

In addition, the RPM should inform the REM contractor of:

- Site and study area boundaries, if known
- Objectives of the study
- Schedule requirements
- Special site or study conditions.

The RPM should also oversee RI scoping by reviewing RI scoping outputs such as:

- Site descriptions
- Site history
- Chronology of significant events
- Site maps.

Based on preliminary site information, the RPM and the Regional Project Officer (RPO) should tentatively identify general response objectives, or classes of response, without necessarily identifying specific technologies. Examples of general response objectives include the following:

- Source control
- Management of migration
- Removal.

A more extensive list of general response classes is provided in the *FS Guidance*. The general response objectives identified will shape the objectives of the RI site characterization and the evaluation of remedial alternatives.

Historically, the RI/FS has often been planned and executed in a serial fashion (first the final work plan, then the RI, then the FS), usually with a single sampling event. This approach sometimes resulted in a situation where the RI was not sufficient to support the FS, causing delays and problems in technical quality. Therefore, the RI/FS planning process has been evolving to a closed-loop approach where the anticipated data needs of the FS are used in the RI scoping and determination of sample needs. The anticipated FS data requirements are determined from an early screening of alternatives, combined with a focus on those alternatives which appear most reasonable for the site conditions. This approach has been described in the *RI Guidance* and the *FS Guidance*.

This process continues to evolve, and EPA is considering further steps to streamline the RI/FS and improve technical quality. These steps include a greater focus on early alternatives screening; multiple sampling events, each providing feedback to the RI scoping and determination of additional data needs; increased analytical alternatives, such as field screening; and revisions to the work authorization and planning process. These changes are referred to collectively as the phased RI/FS approach. Additionally, EPA is developing several guidance documents to assist in streamlining the RI/FS; these include:

- *Data Quality Objectives Development Guidance for Uncontrolled Hazardous Waste Site Remedial Response Activities*, Draft, October 1986
- *Superfund Public Health Evaluation Manual*, Draft, December 1985
- *Superfund Exposure Assessment Manual*, Draft, January 1986
- *Field Standard Operating Procedures Manual*.

The RPM, RPO, and SPO should keep this emerging approach in mind as they consider the scope of the RI/FS and general response objectives. They should try to visualize the possible operable units and the technologies most likely to be applicable, and should work with the REM contractor to be sure that the scope of the RI is sufficient to support an evaluation of these technologies.

3.4 PROCEDURES FOR ISSUING WORK ASSIGNMENTS TO REM CONTRACTOR

All remedial response services for Federal-lead projects are obtained through the issuance of a work assignment to one of the EPA REM contractors by the EPA Contracting Officer (CO) in Headquarters. A work assignment defines the tasks the contractor is expected to perform to complete the job. Three basic steps are involved:

- Step 1 -- Development and issuance of the work assignment package
- Step 2 -- Completion of interim work assignment activities
- Step 3 -- Approval and implementation of the contractor work plan.

This section will discuss the responsibilities of the RPM for each of these steps. It will also discuss some of the problems that may be encountered in developing and issuing a work assignment and ways to avoid unnecessary delays.

3.4.1 Step 1 – Development and Issuance of Work Assignment Package

Exhibit 3-6 illustrates the process for developing and issuing a work assignment package. As the exhibit shows, the RPM, along with the RPO, is responsible for preparing the work assignment package. The package consists of four elements:

- Work assignment form
- Interim work assignment statement of work (SOW)
- Complete work assignment SOW for the entire project
- Procurement request/requisition (PR).

In order to avoid delays, it is essential that complete work assignment packages be submitted. The RPM's responsibilities for each of these elements are discussed below. Further details on the procedures to be used in initiating and monitoring the contractual aspects of a work assignment are provided in *Work Assignment Procedures for Remedial Contracts*, November 1986, which has been incorporated as Appendix B in this document.

3.4.1.1 Work Assignment Form

The RPM is responsible for preparing the work assignment form, which is a one-page summary of basic information about the individual work assignment. A sample form is contained in Appendix B. It includes such items as the name and address of the contractor, the contract number, the project name, the work assignment number, the authorized level of effort (both for the interim authorized activities and for the complete work assignment), the period of performance; the names of the EPA CO, RPM, and RPO; and the names of the contractor's Site Manager and Regional Manager. The names and phone numbers for current COs and Project Officers (POs) are presented in Appendix C.

In preparing the form, it is very important that the RPM take extra care to ensure that all items are completed accurately. Incorrect or incomplete information such as a missing project name or signature may cause unnecessary delays in processing and issuing the work assignment.

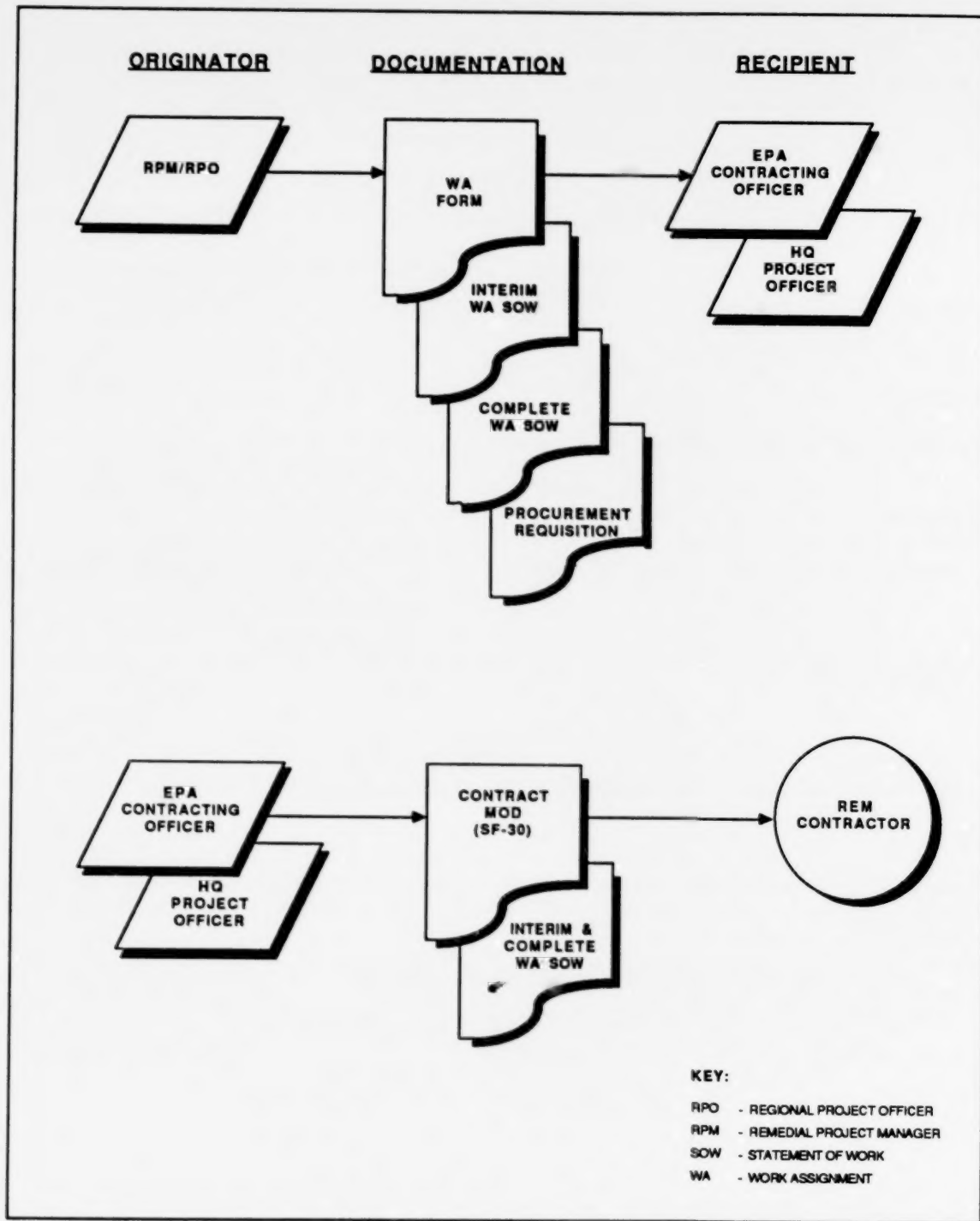
Most of the information necessary for completing the cover sheet is self-explanatory. However, there are two items that require further explanation: 1) the work assignment number and 2) the level of effort (LOE). The work assignment is numbered according to the system described below:

Sample Work Assignment Number: "01-9L33"

- "01" denotes the first work assignment issued
- "9" denotes Region 9
- "L" denotes the activity to be executed
- "33" denotes the site numbered 33 in the Region.

EXHIBIT 3-6

Development and Issuance of the Work Assignment Package



Only the letters and numbers shown below may be used:

- "L" = Remedial Investigation/Feasibility Study
- "N" = Remedial Design
- "R" = Remedial Action
- "S" = Operation and Maintenance and Monitoring
- "X" = Monitoring responsible party remedial actions
- "9" = Remedial support and management
- "7" = General Superfund support and management.

The first two digits of the work assignment number should be left blank since these numbers are assigned sequentially by the CO. The remaining digits in the number are self-explanatory.

Information on the LOE can be obtained from the interim and complete work assignment SOWs, as described below.

3.4.1.2 Interim Work Assignment Statement of Work

The interim work assignment provides the RPM with a great amount of flexibility by allowing the timely start of preliminary activities during the development, review, and approval of the overall work plan. In this way the project can get off to a quick start. Also, these preliminary efforts, which may include some field activities, can be used as input into the RI scoping process, thereby improving the quality of the work plan.

The RPM is responsible for preparing the interim work assignment SOW which defines the interim authorized tasks the contractor is expected to perform under the work assignment. Typically, these include such things as:

- Development of a work plan
- Collection and evaluation of existing data
- Development of a health and safety plan
- Development of a quality assurance project plan (QAPP)
- Topographic mapping
- Development of a sampling plan
- Preliminary sampling, sample screening, or other field tasks
- Development of a CRP.

A copy of a sample interim work assignment SOW is shown in Appendix D.

The interim work assignment SOW also defines the authorized hours to be expended on the interim authorized tasks. The RPM is responsible for providing the estimated hours for professional LOE needed to complete each of the interim authorized tasks. Exhibit 3-7 has been developed to assist the RPM in formulating these estimates. The exhibit contains estimated hours for professional LOE, based on information in existing work plans that have been developed for RI/FS activities at sites that can generally be classified as either "simple," "moderate," or "complex," with regard to the magnitude of the required remedial response activities. The RPM should use these estimates as guidance only, rather than as strict upper or lower limits for accomplishing a particular activity.

EXHIBIT 3-7

Estimates of Labor Hours Required to Complete Interim Work Assignment Tasks for Simple, Moderate, and Complex Sites*

Tasks	Simple	Moderate	Complex
Work Plan Preparation	100-160	120-400	360-700
Collection and Evaluation of Existing Data	40-80	60-160	120-200
Health and Safety Plan Preparation	30-60	50-100	80-200
Quality Assurance Project Plan (QAPP) Preparation	30-60	60-120	100-180
Topographic Mapping	40-80	80-120	100-150
Sampling Plan Development	80-100	100-200	200-300
Program Management/Community Relations	40-160	120-200	160-320

* Estimates are based on data from previous experience with performance of similar tasks.

3.4.1.3 Complete Work Assignment SOW

The RPM is also responsible for developing the complete work assignment SOW, which defines the remaining tasks the contractor is expected to perform under the full work assignment. It should contain the following elements:

- Site background
- Nature and extent of problem
- Summary of work accomplished to date
- Purpose of the work
- Description of the services to be performed
- Required deliverables
- Reporting requirements.

The SOW should be sufficiently detailed to define what must be done under the activity, yet not so detailed as to reduce the contractor's flexibility in developing an effective work plan to respond to EPA's needs. Among EPA's needs are interactions with the enforcement program, State involvement, and interactions with other Federal agencies. To assist the RPM in developing activities and tasks for the complete work assignment SOW, the RPM should refer to the model SOWs in the *RI Guidance* and the *FS Guidance*, which provide summaries of activities/tasks that may be performed by any of the existing REM contractors and can be used as guidance in developing the activities/tasks to be included in the complete work assignment SOW. However, the coverage of individual REM contracts may vary somewhat, so the RPM should also refer to the appropriate REM contract to ensure that the activities specified in the work assignment SOW are within the scope of the contract SOW. Questions may be addressed to the HQ Regional Coordinator or PO.

3.4.1.4 Procurement Request/Requisition

The PR (EPA Form 1900-8) is used to order the specific tasks and activities defined in the interim and final SOWs. The RPM is responsible for preparing the PR and obtaining all necessary approvals and signatures. The only part of the PR that the RPM will need assistance in preparing is the section on accounting information (account number, appropriation, and Document Control Number). The RPM should contact the Regional Financial Management Division for this information. A sample copy of a PR is shown in Appendix D.

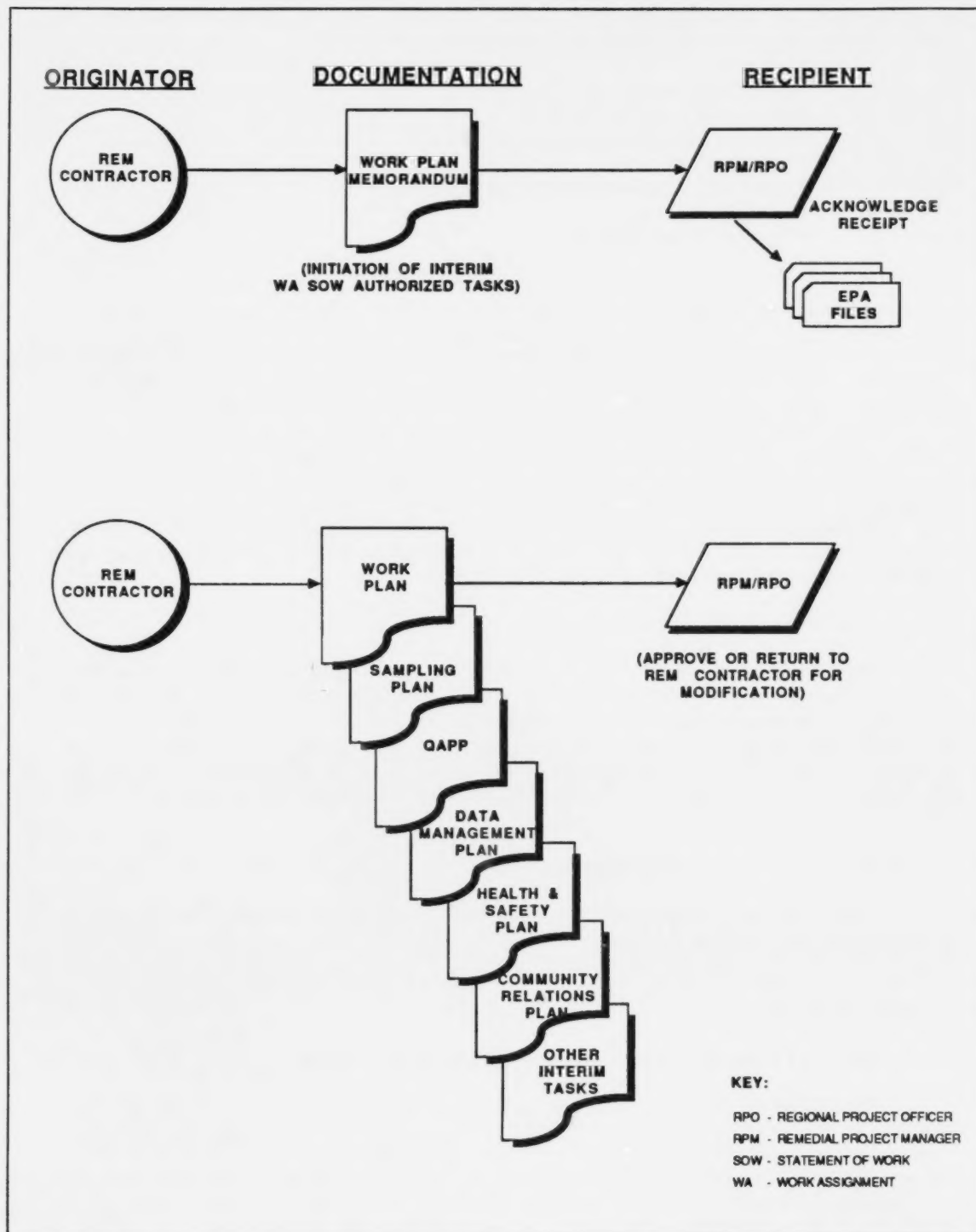
3.4.1.5 Issuance of Work Assignment Package

When the four elements of the work assignment package are completed, the RPM is responsible for sending the package to the Contracting Officer with copies to the HQ PO. If the CO or PO has any questions concerning the package, the RPM is responsible for resolving these questions. The CO will then issue the work assignment to the specified REM contractor.

3.4.2 Step 2 – Completion of Interim Work Assignment Activities

Exhibit 3-8 illustrates the process followed in completing interim work assignment activities. As the exhibit shows, the RPM is responsible for reviewing the work plan memorandum developed and submitted by the REM contractor. The work plan memorandum is optional, and as determined by the RPM, describes the scope of work for the interim work assignment LOE, cost estimates for completing the interim work assignment, and a schedule of interim work assignment SOW deliverables.

EXHIBIT 3-8
Completion of Interim Work Assignment Activities



The contractor is responsible for submitting the optional work plan memorandum within 10 days of receiving the work assignment. It is EPA's intent that the work plan memorandum process be quick and simple. The RPM should maintain frequent contact with contractor personnel who are responsible for developing the work plan memorandum to make sure that they receive any inputs needed and complete the work plan memorandum within this 10-day period. The RPM should arrange a meeting with the contractor's Regional Manager a few days after the contractor has had an opportunity to review the interim work assignment SOW. At this meeting, any outstanding concerns regarding the work assignment should be discussed and resolved. The RPM also should make certain that the contractor has initiated work on the interim authorized tasks while the work plan memorandum is being prepared. The contractor should be reminded that work is to begin immediately on all interim authorized tasks, such as development of the Sampling and Analysis Plan and the QAPP.

When the work plan memorandum is received, the RPM should make sure that it includes the following components:

- A cost estimate for interim activities detailing effort by professional level, travel costs, other direct costs, support services, and any subcontracting
- A schedule for all deliverables to complete the interim work assignment, including the work plan.

The RPM should pay particular attention to the labor hours and costs proposed by the contractor to make sure that they do not vary substantially from those provided in the interim work assignment authorization. If the contractor proposes an increase in labor hours and/or costs above the amount provided in the interim authorization, the RPM must determine that it is justified and obtain written approval from the CO.

Following review of the work plan memorandum, the RPM is responsible for providing to the contractor written acknowledgement of receiving the work plan memorandum and for sending copies to the Headquarters Regional Coordinator and PO. This review should take no more than five work days.

After the work plan memorandum acknowledgement is returned to the contractor, the RPM should remind the contractor's Site Manager that the draft work plan, described in the following section, for the complete work assignment should be submitted to the Regional office as soon as it is completed, even though the remaining authorized interim tasks may not yet be completed. This will expedite approval of the work plan and initiation of tasks under the complete work assignment SOW by allowing Regional review to commence as soon as possible.

3.4.3 Step 3 – Approval and Implementation of Contractor Work Plan

The contractor is responsible for submitting to the Regional office several interim SOW deliverables according to the schedule contained in the work plan memorandum. These may include, but are not limited to, the following:

- Work plan
- Health and safety plan
- Quality assurance project plan
- Site sampling plan
- Community relations plan.

The most significant of these is the work plan, which describes how the contractor plans to accomplish all the activities and tasks outlined in the complete work assignment SOW.

3.4.3.1 Work Plan Review Process

Before proceeding to the administrative mechanics of work plan approval, it is important to discuss the process of work plan review. The objective in reviewing a work plan is to obtain a plan by which a timely, high-quality RI/FS can be accomplished at a reasonable cost. Note that most of the tasks in the RI/FS can be examined from a standpoint of technical quality, budget, and schedule. These three considerations form an excellent basis from which to evaluate the work plan.

In terms of technical content, the work plan should include:

- The purpose, scope, and methodology for each task
- The proposed quantity and distribution of ground-water, surface water, soil, air, and other samples
- The spacing and depth of soil borings and monitoring wells
- The types of analyses likely to be required, based upon near-term technology forecasts
- The use of bench- and pilot-scale studies
- The use of ground-water or other models
- The general relationship between the pathways to receptors, the likely alternatives, and the scope of the RI/FS.

While reviewing the technical aspects of the plan, the "phased RI/FS" approach should be kept in mind. The phased approach involves the use of multiple sampling events to provide feedback for the determination of further sampling needs, increased use of analytical alternatives such as field screening, and a greater focus on early alternatives screening.

When examining the work plan from the standpoint of budget, consideration should be given to overall cost, unit costs, and quantities of such items as well footage, the use of equipment and other resources, and the proposed level of effort for each task. Cash flow scheduling and reporting measures should be in place in order to actively monitor and control costs during the project.

The schedule and organization of the project should be reviewed to ensure that task durations seem reasonable, no resource conflicts exist, the sequence of tasks seems appropriate, and events are scheduled in appropriate seasons. For instance, field sampling should probably not be scheduled for the middle of a New England winter, nor should high ground-water table conditions be sought in August. Sampling may also be coordinated with the seasonal variations of the CLP workload. It is especially important at this point to be aware of which tasks are on the critical path and give those tasks due consideration. The REM contractors sometimes use the critical path method when planning the RI/FS. The CPM output could be a useful tool for review of the work plan, if it is available. Finally, the RPM should pay special attention to the presence of periods

for the review of deliverables, milestone review meetings, and hand-off points. Key activities and milestones should be added to the Regional data base for management tracking and reporting.

3.4.3.2 RPM's Role in Work Plan Review and Approval

The previous paragraphs presented some of the aspects which should be considered during the review of the work plan. The RPM's role during the work plan review is discussed below. The RPM should strive to manage the work plan review process to ensure a timely completion. Copies of the draft work plan are generally sent out to technical specialists within EPA such as geohydrologists, toxicologists, chemists, and biologists for review within their respective areas of specialization. The actual approach may vary from Region to Region or from site to site, but the principle is valid -- the technical aspects of a multidisciplinary study plan should be reviewed as much as possible by a multidisciplinary team. In this way, the RPM has access to a larger pool of knowledge and experience.

The RPM also should coordinate the review with other involved parties within and outside EPA. For instance, EPA enforcement, air program, laboratory support, and legal staff may provide input at this stage. Also, in most cases, one or more State agencies provide some comment at the work plan review stage. The Agency for Toxic Substances and Disease Registry also may be involved since they will be conducting health assessments of all NPL sites, as mandated by SARA. In many cases, ATSDR will be using data collected by EPA before and during the RI/FS. Finally, the USACE may be brought into the review process at this time. This is done using seed money funded through a technical assistance Interagency Agreement (IAG). (Looking ahead, the RPM should ensure that technical assistance money is in the SCAP for the appropriate quarter.)

It is important to keep the review moving and this becomes especially difficult when outside agencies or other groups within EPA are involved, because they are not directly under the RPM's influence, authority, or control. The RPM should establish a reasonable review schedule and see that it is met. Ensuring that other participants adhere to the schedule will require a combination of negotiating skill and diplomacy. The work plan development and review process typically takes about 150 days. EPA would like to reduce this time to 90 days.

The RPM also may provide direct review of certain aspects of the work plan such as budget, scheduling, and selected technical areas. One approach to doing this is to mentally review the project and try to anticipate problems based on personal experience. For the less experienced RPM, another approach would be to compare the work plan against experience on other RI/FSs. Comparisons can be made by looking at actual durations of similar tasks and by calculating unit quantities such as sample densities or costs. In this way, the RPM can become familiar with costs, appropriate amounts of sampling, and different approaches and methodologies under various circumstances. Some conclusions as to the relationship between sample intensity, methodology, and the quality of the RI/FS may be tentatively drawn from those RI/FSs from which remedies have been selected.

An alternative review process would involve a Regional team of experienced RPMs, technical specialists, and others who convene for review of the work plan, bringing to the effort experience and insights derived from past and current RI/FSs. Site visits by one or more of the review team members should be a requirement.

For very complex or extraordinary sites, a Delphi review process can be used to supplement the normal work plan review. In the Delphi review, the Delphi manager circulates copies of the work plan to members of a review panel especially selected for the site in question. These panel members can be EPA staffers or contractor personnel. The panel members independently review the document and submit comments to the Delphi manager who then generates a summary report. The Delphi review is similar to the review done by the RPM, except that a wider pool of reviewers is involved.

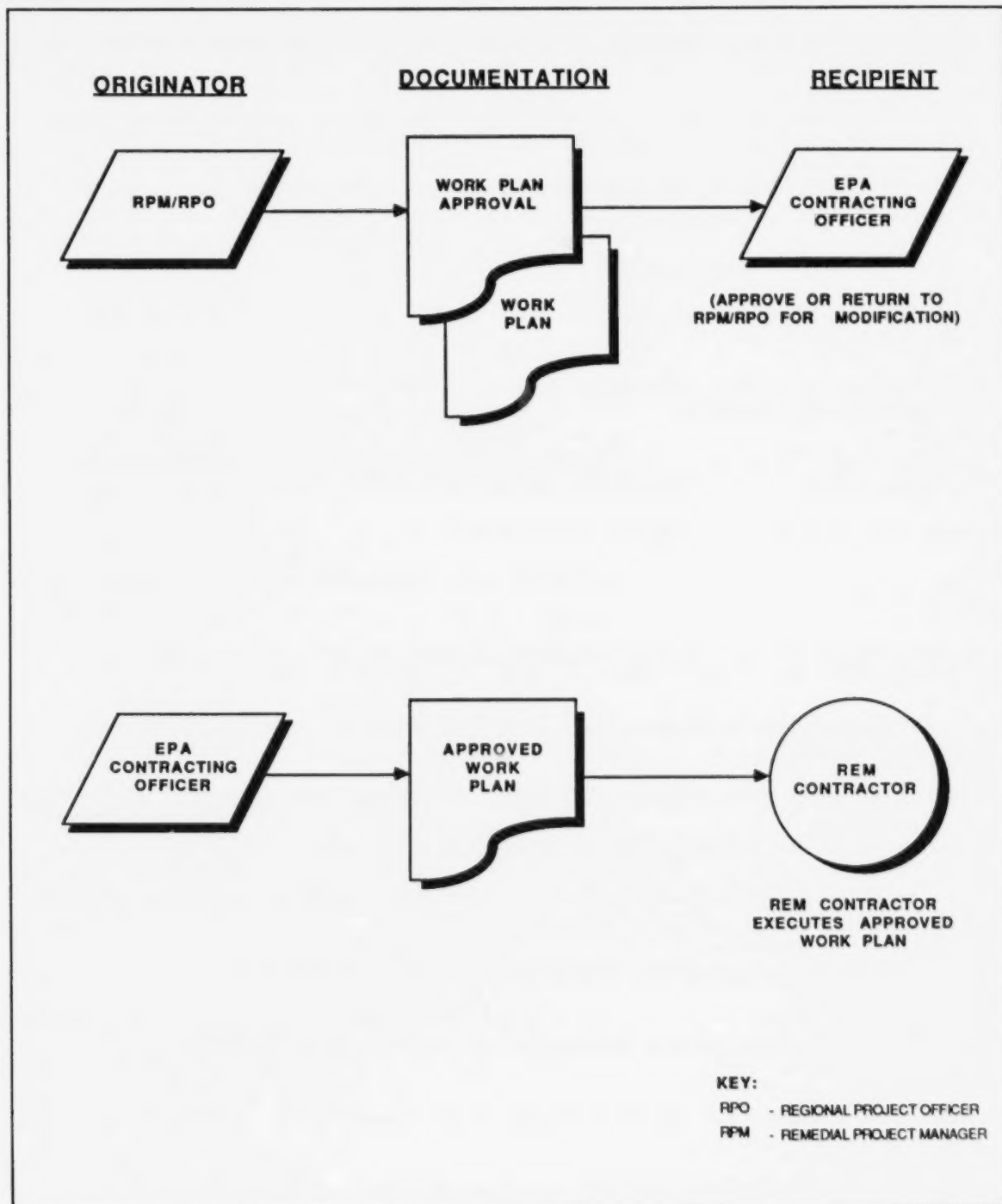
Exhibit 3-9 illustrates the process for approval and implementation of the contractor work plan. If the work plan is acceptable, the RPM forwards it to the RPO for review and approval. The RPM also signs a work assignment form indicating final work plan approval and forward it along with the work plan to the RPO. If the RPO approves the work plan, the RPO will sign the work assignment form and forward it directly to the EPA CO. The work assignment form is forwarded by the EPA CO to the Contractor's National Program Management Office. The exact procedures followed by the RPO may vary depending on the particular contractor involved. The RPO should also forward a copy of the form to the PO. Copies of the approved work plan also should be sent to the State and ATSDR, if appropriate.

If the RPM or RPO disagrees with the work plan, the RPM will contact the contractor to explain the reasons for the disagreement and to discuss what modifications in the work plan will be necessary. Once the modifications are completed, the RPM and RPO will both sign the work assignment form and the RPO will submit it, along with the work plan, to the EPA CO.

In reviewing the work plan, the RPM should make sure that the total funding specified in the plan is within that of the original PR. If it is not, a PR for the incremental costs will be required at a later date. Also, the Expenditure Limit column of the work assignment form should reflect funding limitations.

If the EPA CO has any questions about the work plan, the RPM should be prepared to address these questions in order to make the work plan acceptable. In those instances where modifications to the work plan are necessary, the RPM should discuss the needed revisions with the contractor.

EXHIBIT 3-9
Approval and Implementation of the Contractor Work Plan



ADDITIONAL SOURCES OF INFORMATION

CERCLA Enforcement Attorney's Manual, OECM, April 1984.

Community Relations in Superfund: A Handbook Draft, OERR, March 1986. (OSWER Directive 9230.0-3A)

Cost Recovery Actions Under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), OEC and OSWER, August 26, 1983.

Data Quality Objectives Development Guidance for Uncontrolled Hazardous Waste Site Remedial Response Activities, Draft, OSWER, October 1986 (OSWER Directive 9355.0-7A)

Field Standard Operating Procedures (FSOP) Manual, (OSWER Directive 9285.2)

Guidance on Feasibility Studies Under CERCLA, OERR, and OWPE, June 1985. (OSWER Directive 9355.0-5C)

Guidance on Remedial Investigations Under CERCLA, OERR and OWPE, June 1985. (OSWER Directive 9355.0-6B)

Guidelines and Specifications for Preparing Quality Assurance Project Plans for National Program Offices, Quality Assurance Management Staff, May 10, 1985.

Instructions on Budget Execution, OMB Circular A-34.

Intergovernmental Review of Environmental Protection Agency Programs and Activities, Final Rule (40 CFR Part 29).

Intergovernmental Review of Superfund State, Federal, and Enforcement Lead Remedial Projects, OERR, November 30, 1983.

National Enforcement Investigation Center (NEIC) Policies and Procedures Manual NEIC, February 1983.

"Procedures for Documenting Costs for CERCLA 107 Actions", January 1985.

"Procedures for Issuing Notice Letters," OWPE, October 12, 1984.

"Remedial Financial Management Instructions," AA/OSWER, September 21, 1984. (OSWER Directive 9275.2-1)

Superfund Exposure Assessment Manual, Draft, January 1986. (OSWER Directive 9285.5-1)

Superfund Public Health Evaluation Manual, Draft, December 1985. (OSWER Directive 9285.4-1)

State Participation in the Superfund Program Volume I, OERR, February 1984. (OSWER Directives 9375.1-4)

Superfund State-Lead Remedial Project Management Handbook OERR, December 1986. (OSWER Directive 9355.2-1)

"Timely Initiation of Responsible Party Searches, Issuance of Notice Letters, and Release of Information," OWPE, October 9, 1985.

Work Assignment Procedures for Remedial Contracts OERR, November 1986. (OSWER Directive 9242.3-3A)

4. REMEDIAL INVESTIGATION/FEASIBILITY STUDY

The RI and FS are interdependent processes. The activities conducted during the RI and FS generally are performed concurrently, with each project influencing the execution of the other. The RI largely involves data collection, data analysis, and site characterization, while the FS emphasizes alternatives evaluation and decision-making.

During the Federal-lead RI/FS project, a REM contractor conducts the various activities necessary to characterize the hazardous waste site and to evaluate alternatives to remedy the situation. The RPM oversees the REM contractor to ensure that all RI/FS activities are conducted in an effective and timely manner, and in accordance with relevant EPA policies and regulations. While the previous chapter emphasized the activities required to plan and initiate an RI/FS project, this chapter describes the RPM's duties required to ensure that the RI/FS is completed as specified in the work assignment SOW and approved work plan. This chapter is divided into five major sections dealing with RPM activities during the RI/FS:

- Ongoing project management
- Site characterization
- Alternatives screening and evaluation
- Review and approval of the RI/FS Report(s)
- RI/FS closeout.

Exhibit 4-1 depicts the concurrent activities of the RI and FS processes. Detailed information on the RI and FS processes can be found in two key guidance documents:

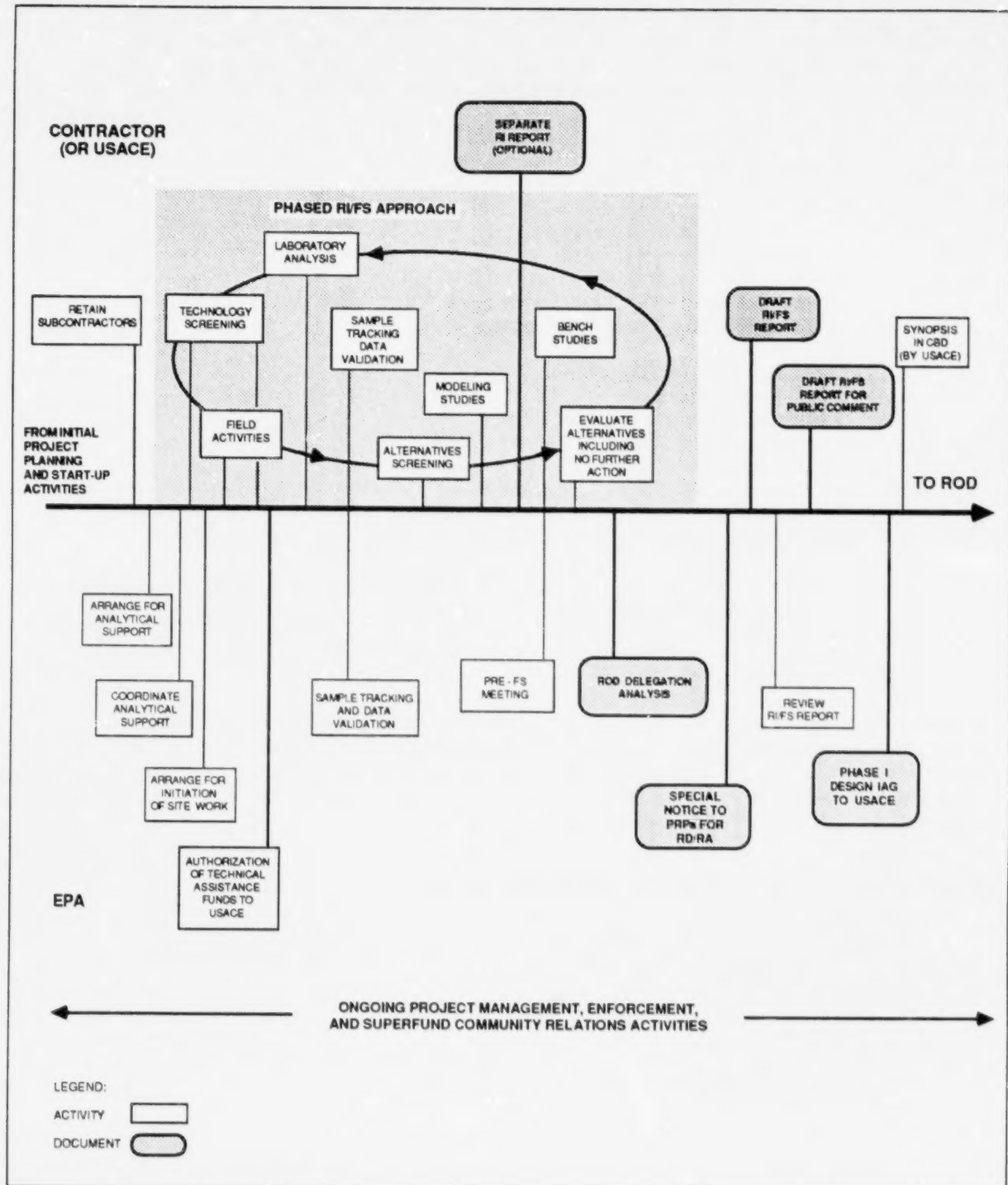
- *Guidance on Remedial Investigations Under CERCLA*, June 1985 (called the *RI Guidance*)
- *Guidance on Feasibility Studies Under CERCLA*, June 1985 (called the *FS Guidance*).

These documents provide detailed assistance for the overall RI and FS processes. Individual site conditions govern the extent of data collection and analysis for each RI and FS activity, and review of specific options is beyond the scope of this handbook. The reader is encouraged to rely heavily on the *RI Guidance* and the *FS Guidance* in conducting this phase of the remedial response project.

4.1 ONGOING PROJECT MANAGEMENT ACTIVITIES

Oversight and management of a Federal-lead RI/FS project require a number of project management activities. Many are common to all phases of the remedial process. Those for the RI/FS are outlined below.

EXHIBIT 4-1
Remedial Investigation/Feasibility Study (RI/FS)



4.1.1 Technical Progress Oversight

Oversight of technical progress is one of the main responsibilities of the RPM during performance of the RI/FS. The RPM should firmly establish lines of communication with the contractor and should identify key project milestones. The RPM should monitor and guide the progress of the RI/FS including the financial and schedule aspects of the project. The attainment of project milestones can be monitored in the following ways:

- Conduct site visits to ensure that reported progress has been accomplished
- Review progress reports, payment vouchers, and work products carefully to ensure compliance with the technical, financial, and schedule commitments
- Communicate frequently with the contractor by telephone and through periodic meetings.

The RPM should attempt to anticipate problems, especially those affecting major milestones. Should problems occur, the RPM should work with the contractor to develop solutions. Also, the RPM should inform the contractor of changes in EPA policy that impact performance of the RI/FS.

Some control by EPA and the RPM over contractor performance is made possible through the Award Fee process. By keeping ongoing records of contractor strengths and weaknesses during performance of RI/FS activities, the RPM develops the basis for Award Fee determinations. Description of the Award Fee process is provided in EPA's *REM II Contract Award Fee Performance Evaluation Plan*, July 1985.

4.1.2 Preparation and Processing of Work Assignment Amendments

Work assignment amendments are generally required if there are major changes in the technical direction, the schedule, or the amount of resources required to complete the project. The RPM should use progress reports and meetings to track the technical and financial status of the project. In this way, the RPM can anticipate the need for work assignment amendments and avoid project delays. The RPM has the following work assignment amendment responsibilities:

- Discuss potential amendments with the contractor
- Seek innovative ways to control costs
- Ensure that the amendment is consistent with the approved SCAP
- Approve and process the contractor Work Assignment Amendment Package, and forward the package to the RPO
- Maintain the signed copy of Work Assignment Amendment Package in the Regional project file.

The procedures for preparing and processing a work assignment amendment are shown schematically in Exhibit 4-2. In general, a work assignment amendment request should be initiated for each modification needed. However, in the case of minor modifications, several may be combined into one amendment.

4.1.3 Coordination with State

Throughout the RI/FS process, the RPM should coordinate with State officials to inform them of site progress and to receive their input. Under SARA, the State's role in the remedial response program has been formalized and EPA/State coordination is mandatory. For example, the RPM should:

- Modify appropriate agreements with the State when there are significant changes in the scope of work
- Submit periodic progress reports for State review
- Invite State officials to participate in site visits
- Oversee State involvement if the State has entered into a Cooperative Agreement for management assistance
- Coordinate State review of RI/FS Reports
- Ensure the State's involvement with community relations activities.

As the RI/FS process is completed, the RPM must initiate the intergovernmental review process and prepare to amend appropriate agreements with EPA which relate to the next phase of the cleanup. For further information on the State's involvement in Federal-lead remedial projects, consult the *State Manual*.

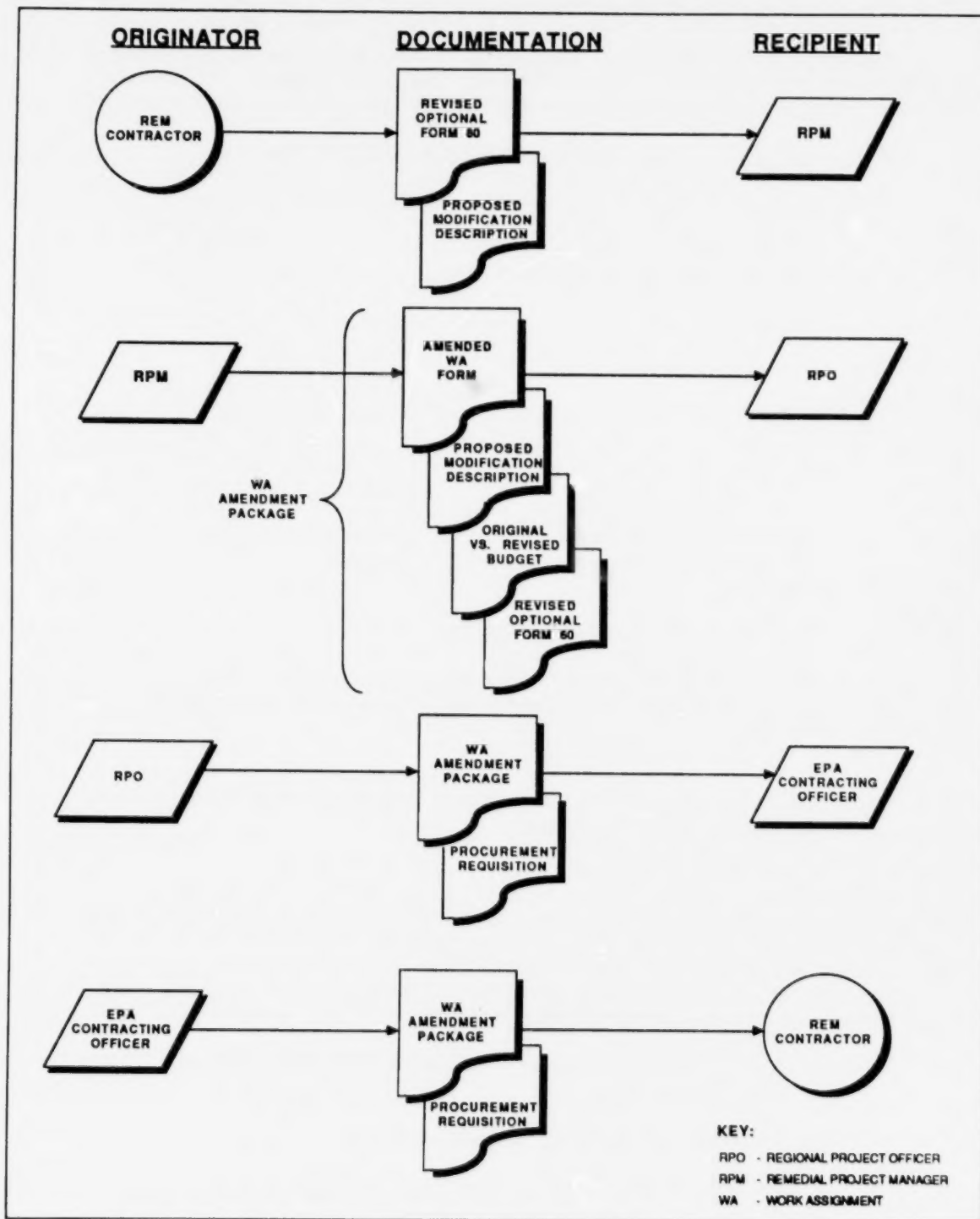
4.1.4 Data Reporting and Record Keeping

Throughout the RI/FS process, the RPM is responsible for maintaining thorough, accurate records. These assist project management and provide documentation for future cost recovery actions, as well as possible external audits. In addition, the Superfund Amendments require EPA to establish an administrative record upon which the selection of a response action will be based. The record must be available to the public at or near the site. Also, the RPM may need to supply information for updating EPA's automated data management systems.

The RPM must maintain site files, including documentation that will support cost recovery actions. The type of information needed for cost recovery is described in *Cost Recovery Actions Under CERCLA*, August 1983, and *Procedures for Documenting Costs for CERCLA 107 Actions*, January 1985. The latter manual also presents a suggested file structure. Examples of documentation relevant to the RI/FS that should be maintained include:

- Contractor work plans and progress reports
- On-site logs, notes, and manifests
- Analytical laboratory reports
- RI report
- Alternatives evaluation reports.

EXHIBIT 4-2
Work Assignment Amendment Procedures



For additional assistance in maintaining documentation, the RPM should consult the data management chapter of the *RI Guidance* and Appendix U of the *State Manual*. At the completion of the RI/FS, EPA Regional enforcement staff members may ask the RPM to assist in preparing a Cost Recovery Summary.

Periodically, the RPM must become involved with reviewing or updating information developed for use in one of EPA's automated data systems. The following are the major systems of concern, along with relevant RI/FS input/review requirements:

- CERCLIS (CERCLA Information System) -- combines the Emergency and Remedial Response Information System (ERRIS) and Project Tracking System (PTS) and is used to track major accomplishments at candidate and actual NPL sites. Activity start and completion dates for RI/FS must be entered. The RI/FS start date is when funds are obligated. The RI completion date is when the final RI Report is submitted to EPA, or when validated data are received from the contractor. The FS completion date is when the ROD is signed. (When the RI/FS is funded as one project, there is one completion date.)
- SCAP -- is the official document from which the AA/OSWER identifies funding needs for proposed Superfund activities. Activities must be on the approved SCAP to receive funding. The RPM should coordinate with the Regional SCAP contact to ensure that information provided is accurate and adequate for determining site funding needs. Particular attention must be given to ensure that RD activities are identified on the SCAP before the estimated RD start date.
- FMS (Financial Management System) -- is used by the Office of Emergency and Remedial Response (OERR) Funds Control Center to prepare monthly and ad hoc financial status reports on the remedial program. RPMs may be asked to review these reports for accuracy.

Additional guidance is available for each of the above systems. Regional contacts or Headquarters staff responsible for each data system can supply these documents and can provide additional guidance as needed.

4.1.5 Coordination with Other Regional Staff

Throughout the course of the RI/FS, the RPM must maintain close contact with both Regional enforcement and community relations staffs. The RPM's role is that of a project advocate and facilitator. The RPM should use the project plan and schedule to integrate/control the input/activities of others into the overall project. Coordination with enforcement staff can involve the following actions:

- Transmit any information discovered during the RI/FS that helps identify PRPs
- Review schedules of PRP negotiation windows
- Assist with the preparation of Notice Letters to PRPs

- Ensure security of any confidential information obtained during the RI/FS
- Participate in negotiations with PRPs following completion of the RI/FS.

Coordination with community relations staff during the RI/FS may involve the following activities:

- Participate in public meetings
- Develop fact sheets
- Schedule and coordinate public comment period following FS draft report completion.

Community relations activities are discussed in *Community Relations in Superfund: A Handbook*, Draft, March 1986. The RPM should also maintain close coordination with the Office of Regional Counsel and other appropriate Regional staff. At sites where a removal action has taken place, coordination with emergency response personnel is crucial. (OERR is currently developing guidance for remedial projects requiring an emergency response.)

4.1.6 U.S. Army Corps of Engineers Technical Assistance

For Federal-lead sites, the USACE will provide technical assistance to EPA, upon request, during the RI/FS. Assistance from the USACE during the RI/FS serves two purposes:

- Assures that proposed remedial actions can be engineered and constructed
- Assures a smooth transition of the site to the design and construction stages, which the USACE typically leads.

Types of review assistance activities that may be requested include:

- Review of work assignments, work plans, or subcontracting packages
- Participation in project review meetings
- Technical review of reports, plans, and specifications.

The USACE also may become much more involved in projects that require specialized technical expertise, such as those projects that involve dredging.

Technical assistance from the USACE is obtained through Interagency Agreements. Generic IAGs for technical assistance during RI/FS projects should be executed by the Regions with the USACE Missouri River Division (MRD). To obtain technical assistance for a specific RI/FS project, the RPM must prepare and issue a site-specific work assignment to USACE-MRD under the established IAG. The RPM should ensure that funds for technical assistance IAGs are reflected in the SCAP for the appropriate quarter. Current EPA procedures and sample IAG forms are provided in Appendix E.

4.1.7 Agency for Toxic Substances and Disease Registry Health Assessments

Under the Superfund Amendments, ATSDR has been charged to conduct health assessments at NPL sites. ATSDR, in consultation with EPA, must set priorities for health assessments at NPL sites based upon potential risk to human health and adequacy of existing data, recognizing also EPA's NPL and RI/FS schedules. To the extent practicable, ATSDR should complete assessments before RI/FS completion. ATSDR health assessments do not supersede risk assessments and/or endangerment assessments conducted by EPA during the RI/FS.

Details and procedures for coordinating ATSDR's health assessment activities into the Superfund remedial process have not been finalized. However, it may be assumed that the RPM will be responsible for coordinating with ATSDR to facilitate information exchange and project completion.

4.2 SITE CHARACTERIZATION

Site characterization is one of the main functions of the RI process. The objective of site characterization is to collect and analyze sufficient information to determine the need for remedial actions, the extent of any remedial action, the feasibility of remedial action alternatives, and conceptually plan the remedial action. Site characterization activities provide the data to support the evaluations made in the concurrent FS. Typically, site characterization involves collecting existing data concerning a site (part of RI scoping), collecting new data through field studies, and following up initial field studies with additional investigations, if required, to complete site characterization.

The RPM must actively oversee site characterization activities to the extent necessary to be confident that the contractor meets the objectives of the project. The RPM also must be assured that all activities are conducted in accordance with approved work plans and with EPA policy and regulations.

4.2.1 RI Scoping

RI scoping involves gathering and reviewing all existing site data to characterize the site and to determine additional data needs, including the need for bench or pilot studies. RI field studies are then designed to collect information to fill these gaps. RI scoping is conducted prior to work plan development. The RPM's responsibilities during RI scoping have been discussed in Chapter 3 of this handbook.

4.2.2 Field Activities

The RPM should take an active role in oversight of field activities. Periodic site visits should be conducted to observe such activities as well drilling, sample collection, and sample shipment. Field activities must be conducted according to approved plans, with particular emphasis on the QAPP and site safety plan. The RPM may be able to obtain technical support for overseeing field activities from other offices within EPA.

Three common problems that cause project delays during this phase of the RI are:

- Inadequate experience in contractor or subcontractor personnel impacting technical performance

- Timeliness of analytical support process
- Sufficiency of data to support decisions on remedial action.

Discussion of these problems is presented below along with suggestions for reduction or alleviation.

Poor technical performance by the REM contractor and subcontractors due to inexperienced personnel can delay the RI/FS. For example, inexperience with sampling techniques, sample quality assurance methods, and chain-of-custody procedures can result in "lost" or unusable samples. Typical sampling errors include:

- Contaminated samples
- Non-homogeneous sample matrices
- Incorrect sample packaging for transport
- Insufficient sample volumes
- Insufficiently labeled samples
- Incomplete sample traffic reports.

Well drillers who normally install water supply wells or geotechnical drillers who perform soil borings for foundation studies may cause delays because they are unfamiliar with the special precautions, requirements, and health and safety aspects of hazardous waste work.

The analytical support process is another potential cause of delay during site characterization. The process includes appropriate selection of data needs (data quality objectives), review and approval of sampling plans and QAPPs, the analysis of samples, and the validation of results. The RPM, as the project facilitator, can take certain actions to reduce or work around these delays:

- Coordinate closely with the EPA's Regional Environmental Services Division (ESD) regarding the timing for review of sample plans and QAPPs, the schedule for sampling, the availability of CLP services, and the responsibility and schedule for validation of data
- Implement the concept of data quality objectives (see *Data Quality Objectives Development Guidance for Uncontrolled Hazardous Waste Site Remedial Response Activities*, Draft, October 1986, which discusses alternative analytical approaches) to tailor the number of samples, the types of analyses, and the level of quality assurance to the decisions that must be made.

Other actions the RPM can take include:

- Review sampling plans for the proposed approach and, for example, request specific fractions rather than full priority pollutant scans, when appropriate
- Encourage the use of field screening and mobile laboratory units

- Utilize laboratories outside of the CLP -- REM, in-house, or subcontract -- when needed to meet particular project requirements and the resulting quality will be consistent with project objectives.

The discovery near the end of the FS that the data developed during the RI are insufficient to support an evaluation of the alternatives can cause significant project delays. This situation is most likely to occur when a single sampling event is used or when sample turn-around time is great. This situation also can result from the taking of too few samples in an attempt to reduce RI costs. In either case, not fully knowing the extent of contamination or finding some last-minute surprise can have serious impacts on the FS schedule. For this reason, the use of the phased RI/FS approach is strongly encouraged. This approach, already mentioned in Chapter 3, can be briefly described as: (1) early screening of alternatives to help define data needs and the scope of the RI, (2) multiple sampling and analysis events, each contributing subsequent definitions of data needs, and (3) the use of analytical alternatives (such as field screening) to more quickly determine subsurface conditions.

4.2.3 Supplemental RI Data Needs

The RPM must carefully review the data and meet with the REM contractor at the earliest opportunity to determine the need for further sampling. This review process should be initiated at the sample collection or field analysis stage. If additional work is needed, it must be done with minimal overall schedule impact. The RPM and the contractor must determine the following:

- Are the validated data sufficient to meet the objectives of the RI?
- Are the validated data adequate for purposes of remedial alternatives evaluation?
- Can +50%, -30% cost estimates for remedial alternatives be developed?
- Are the validated data sufficient to support enforcement or cost recovery actions?

If not, the RPM and the REM contractor must develop an approach for collecting additional data to complete the site characterization.

It also may be determined that bench studies are necessary to further characterize a site or to evaluate potential remedies that have survived the screening process. (Bench studies also may be conducted as part of the RD.) If bench studies are required, the contractor must develop a tentative experimental plan as part of the RI statement of work. In some cases, the bench study work plan cannot be finalized until some RI data are available. Also, the bench studies generally should be limited to alternatives that have survived the screening process. Objectives of the study must be clearly specified. The RPM should coordinate the review of the experimental plan to ensure that the following are present:

- Clearly defined set of objectives
- Detailed work plan by task
- Completion schedule
- Labor cost estimates.

4.3 ALTERNATIVES SCREENING AND EVALUATION

Alternatives screening and evaluation is the foundation of the feasibility study portion of the RI/FS. Using site-specific data from the pre-RI and the RI activities, remedial alternatives within the general response categories* are developed and evaluated in terms of:

- Technical feasibility
- Environmental impacts
- Public health impacts**
- Institutional impacts
- Costs.

The screening of alternatives is a multi-stage process that begins early during the course of the RI. The reader is encouraged to review the more detailed discussions in the *RI Guidance* and the *FS Guidance*.

The RPM provides input at several points in the alternatives screening and evaluation process in order to ensure that a reasonable selection of alternatives is considered. "Reasonable" implies not looking at the whole universe of alternatives to the detriment of the cost and schedule of the FS, while at the same time not examining so few alternatives that viable options are not considered. Generally, the RPM provides input to the process during:

- RI scoping and development of response objectives
- The RI, as data become available
- The pre-FS meeting, where the RI results are reviewed and the FS scope is established
- The FS, as alternatives are evaluated in detail.

The RPM needs to develop a sense of what technologies are currently available and appropriate for application at the site, while also staying knowledgeable of the emerging technologies that are becoming available. The RPM also should be cognizant of statutory and policy changes that may affect technology selection. For example, the Superfund Amendments place greater emphasis on the long-term protection and reliability of remedial actions. SARA calls for remedial actions that utilize permanent solutions and alternative treatment or resource recovery technologies to the maximum extent practicable. If a remedy in accordance with the preference for treatment and permanent solutions is not selected, an explanation must be published.

* For a discussion of general response categories, consult the *FS Guidance* and Chapter 3 of this handbook.

** An enforcement-lead FS also must include an endangerment assessment, which is similar to a public health impact analysis, but involves more formal documentation needed to support an enforcement case; consult the *FS Guidance* for further information.

4.3.1 Technical Oversight During Feasibility Study

The RPM must ensure that feasible remedial alternatives are given proper consideration, are presented in a fashion amenable to decision-making, and are evaluated on schedule by the contractor. The RPM should arrange for periodic meetings with the contractor, State, and possibly the USACE, (including the pre-FS meeting) to discuss progress, to identify types of alternatives, to highlight possible issues, to plan the RI/FS review, and to identify any additional data needs, including bench and pilot studies.

4.3.2 Compliance with Other Environmental Statutes

As a general rule, the Agency's policy has been to *attain* or *exceed* applicable or relevant and appropriate environmental and public health standards in CERCLA response actions, unless specific mitigating circumstances exist. (See "*CERCLA Compliance With Other Environmental Statutes*," October 2, 1985, and the *National Oil and Hazardous Substances Pollution Contingency Plan*, November 20, 1985.) The Superfund Amendments now require that remedial activities conducted on-site shall meet the applicable or relevant and appropriate standards, limitations, criteria, and requirements (ARARs) of State and Federal environmental laws. The Superfund Amendments basically build upon EPA's site-specific approach to clean-up standards found in the *NCP*. Of particular importance to the Superfund program are the Resource Conservation and Recovery Act (RCRA) regulations pertaining to land disposal bans. The RPM must stay abreast of new developments in this area. The RPM must be aware of new policy developments. This can be done by reviewing ROD abstracts and updates, and by communicating with the Headquarters Regional Coordinator.

In general, as part of the FS, at least one alternative for each of the following categories should be evaluated within the requirements of the *FS Guidance* and be presented to the decision-maker:

- Alternatives for treatment or disposal in an off-site facility, as appropriate (See "*Procedures for Planning and Implementing Off-site Response Actions*," May 6, 1985).
- Alternatives that *attain* applicable or relevant and appropriate Federal or State public health or environmental requirements.
- As appropriate, alternatives that *exceed* applicable or relevant and appropriate public health or environmental requirements.
- Alternatives that do not attain applicable or relevant and appropriate public health or environmental requirements but will reduce the likelihood of present or future threat from the hazardous substances and that provide significant protection to public health and welfare and the environment. This should be an alternative that closely *approaches* the level of protection provided by applicable or relevant and appropriate requirements.
- A no action alternative.

The RPM is responsible for ensuring that the FS addresses each of the above categories of alternatives, where appropriate. It may be necessary to inform the REM contractor of applicable or relevant and appropriate standards. State representatives

should advise the RPM of any State requirements or standards as early in the process as possible.

The FS, and ultimately the decision documents, must state the reasons in situations where the chosen remedial alternative does not attain or exceed the applicable or relevant and appropriate standards. The RPM must ensure that this requirement is addressed and should seek advance concurrence from AA/OSWER for a waiver from consistency with other environmental laws.

4.3.3 ROD Delegation

In a March 24, 1986 memorandum, "*Delegation of Remedy Selection to Regions*," the Administrator set forth current policy for delegation of the selection of remedy responsibility to the Regional Administrators (RAs) on a site-specific basis. All site remedy selections will be delegated unless the circumstances below exist:

- Potential fund balancing (where the total cost of all site response is expected to exceed \$40 million)
- Precedent-setting or nationally significant circumstances.

In the event that the decision-making authority is delegated, consultation with the AA/OSWER is required for sites involving:

- Ground-water contamination due to multiple sources
- Betterment (when the State's preferred remedy is more expensive than the cost-effective alternative)
- Precedent-setting or other nationally significant circumstances.

To determine whether it is appropriate to delegate the remedial alternative selection, the RA submits a quarterly letter to the AA/OSWER recommending which selections should be delegated, which will require AA/OSWER consultation, or which should be retained by the AA/OSWER. The letter should include the criteria for the recommendation. Delegation letters can be prepared as early as RI completion, but should be submitted before the FS Report goes out for public comment.

The RPM may be asked to prepare the delegation letter and transmit it to the appropriate Regional personnel, particularly ORC, for review. The letter, signed by the RA, is then submitted to Headquarters (AA/OSWER with a copy for the Regional Coordinator). Upon receipt of a letter of recommendation, OERR will promptly evaluate RA recommendations and prepare for AA/OSWER signature a ROD delegation memorandum that lists sites for which remedy selection has been delegated. The memorandum will be sent to RAs at least one week before the new quarter begins.

If delegation with consultation is granted, the RPM will forward the ROD package or summary of the key issues to OSWER for consultation prior to ROD signature by the RA. Consultation can begin with a final draft FS Report prior to public comment or can occur immediately prior to ROD signature. Consultation generally should begin between the RPM and the Headquarters Regional Coordinator and end with a final request by the RA and a response by the AA/OSWER or his designee.

4.4 REVIEW AND APPROVAL OF RI/FS REPORT(S)

The RI/FS Report(s) is the final product of the RI/FS process. It summarizes the findings of the RI and clearly presents the alternatives and the results of their evaluation. It is the RPM's responsibility to ensure that the report(s) is complete and is presented in a format that facilitates the ROD process. The RPM must also coordinate the review and approval of the report(s). To accomplish these activities the RPM should:

- Meet with the REM contractor to discuss report format and contents
- Coordinate report reviews with the State
- Coordinate report reviews with appropriate EPA personnel (Regional and Headquarters)
- Coordinate report reviews with the USACE, as appropriate
- Ensure that enforcement staff initiates the 60- to 120-day PRP negotiations moratorium at the time when the draft RI/FS Report is received
- Coordinate with community relations personnel to initiate the two-week notice period and make the draft report available for the three-week public comment period
- Ensure the initiation of intergovernmental review for RD/RA
- Coordinate the review and approval of the final RI/FS Report.

Information regarding RI/FS Report content and format is presented in the *RI Guidance* and the *FS Guidance*. To ensure a timely review, the RPM should frequently remind reviewers of schedule commitments, hold review meetings, and take other actions to actively manage the review process.

4.5 RI/FS CLOSEOUT

Following completion of all work as specified in the work assignment and the approved work plan, including the Pre-Design Report (see Chapter 6), the REM contractor is responsible for notifying the RPM that the project can be closed. The RPM then prepares and processes the required project close-out documentation. This documentation includes:

- Work assignment completion report
- Work assignment form, indicating completion notification
- Final completion voucher.

In practice, the final closeout is often delayed because of late receipt of subcontractor invoices. Further information on project closeout is given in *Work Assignment Procedures for Remedial Contracts*, November 1986.

4.5.1 Work Assignment Completion Report

The Work Assignment Completion Report (WACR) is a three-page form that describes the contractor's performance on the work assignment. Separate copies are completed by both the contractor and the RPM. The WACR package then becomes part of a subsequent Award Fee evaluation package. The RPM's responsibilities are as follows:

- Ensure that the contractor submits a WACR immediately upon notification of completion of the project
- Ensure that WACRs are filled out properly:
 - Do they identify trends or recurring difficulties relating to the areas in which performance can be improved in future assignments?
 - Do they address performance with respect to project planning, technical activities, schedule and cost control, reporting, and resource utilization and effort?
- Prepare a WACR for each completed work assignment
- Obtain the signature and approval of the EPA RPO on each WACR. This also involves coordinating with the RPO and Regional management in recommending a percentage of the Phase II Award Fee
- Submit copies of all WACRs to the Headquarters Project Officer or Deputy Project Officer for review and use in determining Award Fee recommendations
- Solicit input from Regional, State, or other personnel involved with the site in completing the WACR.

The RPM should contact the contractor Site Manager to discuss any problems that occur in the preparation and submission of the WACR.

A copy of a WACR is shown in Appendix D. Additional information on the WACR can be found in EPA's *REM II Contract Award Fee Performance Evaluation Plan*, July 1985.

4.5.2 Work Assignment Closeout

The work assignment form indicating completion notification is initiated by the REM contractor site manager and submitted to the RPM. The RPM is responsible for sending the work assignment form back to the contractor who is then responsible for submitting copies to EPA Headquarters. The RPM should also retain a copy of the form for the Regional files.

Another important aspect of RI/FS closeout is the REM contractor's compilation of the site files prior to their submittal to EPA. At this time, the exact procedures and requirements for this activity are not yet determined. Contact the Headquarters Regional

Coordinator or REM Deputy Project Officer for guidance (or assistance) in file preparation.

4.5.3 Final Invoice

The final invoice for the project is submitted by the contractor to the RPM for review, when available. In some cases, the invoice may be delayed until final subcontractor invoices are received. Any problems with the final invoice should be discussed with the contractor site manager as soon as they are identified. Signing the invoice indicates that all work for which payments are claimed has actually been performed. The RPM then forwards the final invoice to the RPO for signature.

ADDITIONAL SOURCES OF INFORMATION

"CERCLA Compliance with Other Environmental Statutes," AA/OSWER, October 2, 1985. (OSWER Directive 9234.0-2)

Community Relations in Superfund: A Handbook Draft, OERR, March 1986. (OSWER Directive 9230.0-3A)

Cost Recovery Actions Under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) OEC and OSWER, August 26, 1983.

Data Quality Objectives Development Guidance for Uncontrolled Hazardous Waste Site Remedial Response Activities Draft, OSWER, October 1986. (OSWER Directive 9355.0-7A)

"Delegation of Remedy Selection to Regions," AA/OSWER, March 24, 1986. (OSWER Directive 9260.1-9)

Field Standard Operating Procedures (FSOP) Manual (OSWER Directive 9285.2)

Guidance on Feasibility Studies Under CERCLA, OERR, and OWPE, June 1985. (OSWER Directive 9355.0-5C)

Guidance on Remedial Investigations Under CERCLA, OERR and OWPE, June 1985. (OSWER Directive 9355.0-6B)

National Oil and Hazardous Substances Pollution Contingency Plan (47 FR 31180), November 20, 1985.

"Procedures for Documenting Costs for CERCLA 107 Actions", January 1985.

"Procedures for Planning and Implementing Off-Site Response Actions," AA/OSWER, May 6, 1985. (OSWER Directive 9330.2-1) (supplemented by 9330.2-3)

"REM II Contract Award Fee Performance Evaluation Plan," OERR, July 1985. (OSWER Directive 9242.3-5)

Standard Operating Safety Guide Manual, OERR, November 1984. (OSWER Directive 9285.1-1B)

State Participation in the Superfund Program Volume I, OERR, February 1984. (OSWER Directive 9375.1-4)

Superfund Exposure Assessment Manual, Draft, January 1986. (OSWER Directive 9285.5-1)

Superfund Public Health Evaluation Manual, Draft, December 1985. (OSWER Directive 9285.4-1)

User's Guide to the EPA Contract Laboratory Program, OERR, July 1984. (OSWER Directive 9240.0-1)

Work Assignment Procedures for Remedial Contracts, OERR, November 1986. (OSWER Directive 9242.3-3A)

5. RECORD OF DECISION AND TRANSITION TO DESIGN

Preparation and approval of the Record of Decision are crucial steps in the remedial process. A ROD is required for all remedial actions financed with monies from the trust fund. The ROD documents the Agency's remedial alternative decision-making process and demonstrates that the requirements of CERCLA, SARA, and the *NCP* have been met. The ROD also provides the basis for future cost recovery actions that may be taken with regard to site remediation under these requirements.

The RPM has an extremely important role during the ROD process and the transition to design. The RPM, in a sense, engineers the ROD process which bridges the site characterization and alternatives evaluation of the RI/FS to the design and implementation of the remedial action. The activities that take place during this phase are shown in Exhibit 5-1. This chapter describes the activities of the RPM and others during the ROD process and the transition to design. These include:

- Ongoing project management
- The ROD process (preparation through approval)
- Transition to remedial design.

Additional guidance on ROD procedures can be found in *Preparation of Decision Documents for Approving Fund-Financed and Potentially Responsible Party Remedial Actions Under CERCLA*, February 27, 1984, hereafter referred to as the *ROD Guidance*).

The RPM must work closely with the representative from ORC assigned to the project in coordinating the preparation, review, and approval of the ROD. The project attorney assures the legal sufficiency of the Regional ROD process, the administrative record, and the ROD document itself, while the RPM focuses more on the technical aspects of the project and compliance with program policy.

Many Regions are now using a ROD Project Team concept, which has proven to be successful. For example, an effective ROD Project Team would consist of the RPM and representatives of the following:

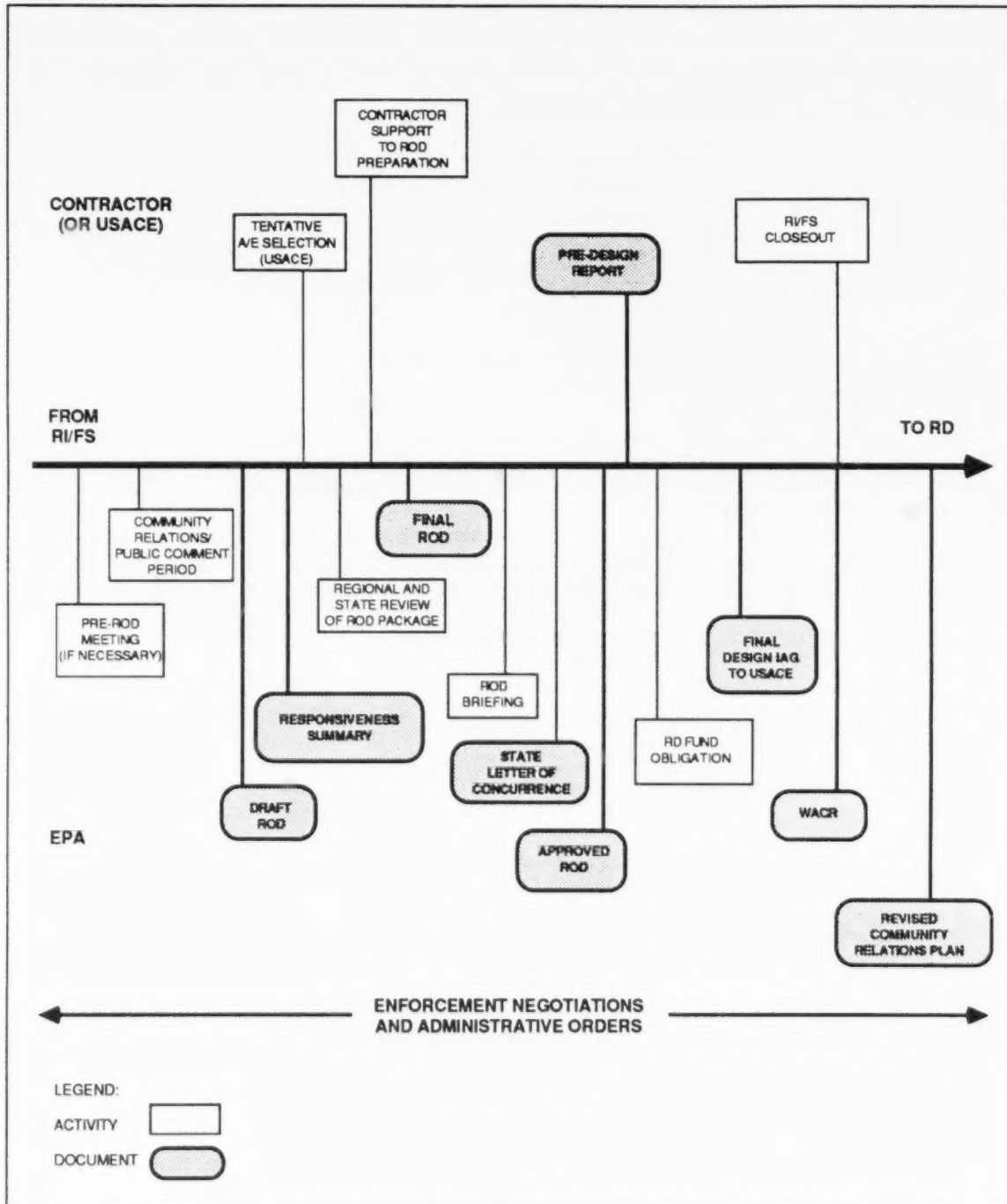
- RI/FS contractor
- State
- ORC
- Enforcement program
- Other relevant EPA programs.

By including all these members in a team, the ROD process can be greatly expedited, since relevant concerns are uncovered early and can be resolved quickly.

Support from the Headquarters Regional Coordinators is generally available on the larger, more complex sites. Headquarters personnel may participate in initial scoping and pre-RI/FS meetings on a site-by-site basis. The Regions are encouraged to enlist Headquarters support on projects with unusual issues or high priority, in particular, those projects where the AA/OSWER's signature is likely on the ROD.

EXHIBIT 5-1

Record of Decision (ROD) and Transition to Design



5.1 ONGOING PROJECT MANAGEMENT ACTIVITIES

During the course of the ROD process, there are a number of ongoing project management activities that are necessary to ensure a smooth process and transition from RI/FS to RD. These are outlined below.

5.1.1 Coordination with State

Throughout the ROD process, the RPM should coordinate with State officials to inform them of progress and to receive their input. A State representative also can be a member of the ROD Project Team. Specifically, the RPM should:

- Modify any agreements with the State for RD
- Involve the State in the remedy selection
- Solicit State comments on the draft ROD, Responsiveness Summary, and supporting documentation
- Invite State officials to participate in pre-ROD briefings
- Ensure State (60-day) intergovernmental review for RD (occurs during public comment period on the draft RI/FS Report); if a formal intergovernmental review process has not been established, or if the process does not include the Superfund program, the RPM must forward copies of the draft RI/FS Report to appropriate State officials.

Most importantly, the RPM must obtain the State's concurrence on the recommended alternative. This should be documented in a letter from the appropriate State official to the Regional Administrator. The RPM should inform State officials that the State must make assurances to meet all statutory cost-share requirements. The State cost share is not due until the remedial action is implemented. The State also must make an assurance of the availability of an off-site disposal facility, if it is part of the remedy.

The Superfund Amendments add two assurances the State must make:

- Effective October 17, 1989, EPA will not fund any remedial actions requiring the use of treatment or disposal facilities unless the State enters into a contract or CA assuring that it has adequate capacity for the destruction, treatment, or secure disposition of all hazardous wastes (including Superfund wastes) expected to be generated in the 20-year period following the date of the assurance
- If the remedy involves the acquisition of real property by EPA, the State must make an assurance to accept transfer of the property in order to allow completion of the remedial action.

Guidance is pending on both of these new assurances.

5.1.2 Data Reporting and Record Keeping

During the ROD process, the RPM must maintain full documentation of all site data and must pay particular attention to any confidential information that, if released, may compromise EPA's ability to negotiate with potentially responsible parties.

Generally, any information that is used in the selection of remedy deliberations is discoverable. Documents relevant to this phase of the remedial process include:

- ROD Delegation Analysis Summary
- Responsiveness Summary
- Intergovernmental review comments
- State concurrence letter
- Final ROD.

These basic documents will be included in the Administrative Record required by SARA. In addition, all written correspondence concerning the ROD process should be kept, as well as written documentation of any important conversations.

The RPM must ensure that the approved SCAP budget includes sufficient funding to cover the costs of the RD for the selected remedy. The RPM should also look beyond to the remedial action funding needs at this time.

The CERCLA Information System data management system must also be updated to include information relevant to the ROD process. Planned ROD start dates for all sites with expected RD obligations during the upcoming fiscal year should be entered at the time of the final SCAP submittal. Additionally, actual ROD start and completion dates are to be entered. The ROD start corresponds to the date that the FS Report goes out for public comment, and the ROD completion date corresponds to the date that the ROD is signed by the RA or the AA/OSWER. The RPM should ensure that accurate information is transmitted to the Regional contact working with the CERCLIS system.

5.1.3 Coordination with Regional Staff

During the ROD process, it is important that the RPM coordinate closely with key Regional staff members on the planning of the ROD, the resolution of issues, and the schedule for ROD signature. These staff members and their roles during the ROD process are described below:

- Enforcement (Office of Waste Programs Enforcement staff and/or their counterparts) may be actively identifying or negotiating with PRPs to conduct the remedial action. The RPM must maintain close communications with enforcement staff so as not to compromise their position nor duplicate their efforts. If EPA decides to negotiate with PRPs for the RD and RA, SARA stipulates that another special notice, apart from the public notice, must be sent to the PRPs, the State, and Natural Resource Trustees. Notice for RD/RA negotiations should be given as early as possible, but no later than when EPA has identified a preferred alternative. Again, as with the RI/FS procedure, the PRPs have 60 days to make a good faith proposal to conduct or finance the RD and RA. During this time, EPA must not begin remedial action, but may initiate design activities. If PRPs do not submit a good faith proposal within 60 days of notice receipt, EPA may proceed with a fund-financed RA. If a good faith proposal is submitted, the moratorium continues for 120 days from the date of notice while EPA evaluates the proposal.
- Regional Counsel is responsible for ensuring that all enforcement - sensitive issues are properly presented and that the requirements of CERCLA, SARA, the NCP, and other environmental laws and

regulations have been met. The ORC must concur on the ROD before it is presented for approval. ORC will be directly involved in negotiations with PRPs.

- Resource Conservation and Recovery Act Program staff must review the ROD for an off-site remedial action involving the treatment, storage, destruction, or disposal of hazardous wastes to ensure consistency with RCRA regulations and technical standards. The RPM should refer to the recent off-site policy, "*Procedures for Planning and Implementing Off-Site Response Actions*," May 6, 1985. (For on-site actions, the RPM may conduct this review.)
- Community Relations staff should verify that all community relations plan activities regarding public comment on the RI/FS are complete. The RPM should coordinate with community relations staff when preparing the Responsiveness Summary and provide input to the revised CRP based on the approved ROD.
- Other Regional Program staff, from such programs as the Office of Drinking Water and the Office of Pesticides and Toxic Substances, should verify that the recommended remedy is consistent with other environmental statutes, regulations, or program activities.

5.1.4 Coordination with Headquarters and Other Interested Parties

Headquarters involvement with the ROD process will vary depending on whether ROD-approval authority has been delegated to the RA (see Section 4.3.3 in the previous chapter) and on the complexity of technical and policy issues regarding the site. In either case, an open dialogue and exchange of information should be maintained between the Region and Headquarters. The Headquarters role at this stage is that of a facilitator. The primary point of contact for the RPM is the Federal-lead Regional Coordinator in the Hazardous Site Control Division. The names and telephone numbers of Federal-lead Regional Coordinators are given in Appendix C. Similarly, staff members from ORC must communicate with their counterparts in Headquarters. Depending on the site-specific situation, other Federal agencies such as the Agency for Toxic Substances and Disease Registry, the Federal Emergency Management Agency, or the U.S. Army Corps of Engineers may become involved in reviewing appropriate documents.

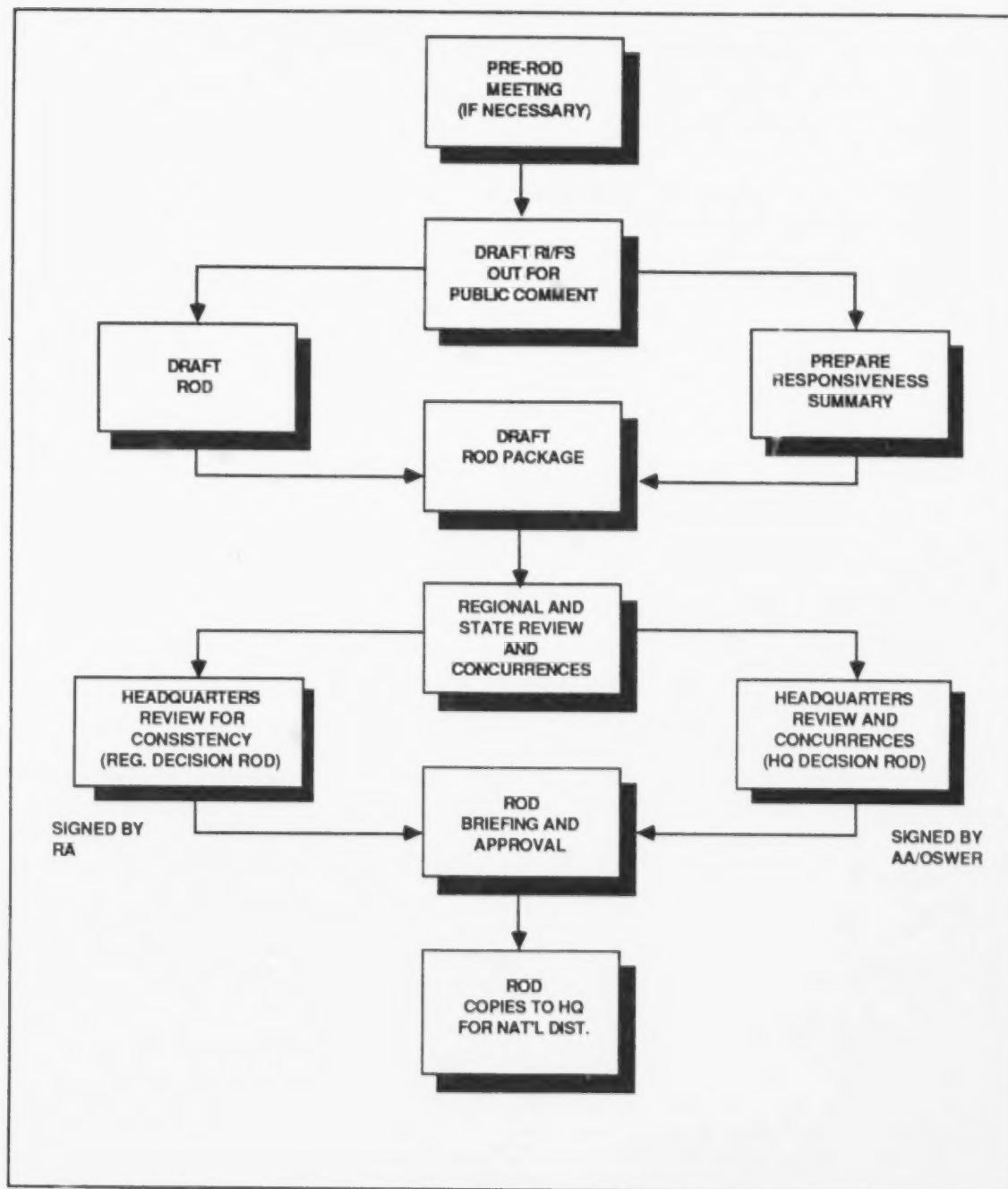
5.2 ROD PROCESS

The RPM is responsible for preparing the ROD and coordinating its review and approval. The existing ROD process for Federal-lead sites is illustrated in Exhibit 5-2. Each of these activities is described below with appropriate guidance for the RPM.

5.2.1 Pre-ROD Meeting

As mentioned at the end of Chapter 4, the RPM should arrange and coordinate a pre-ROD meeting with ORC, enforcement, and other appropriate personnel to discuss the draft RI/FS Report prior to its release for public comment. If a ROD team concept is used, all team members should attend the pre-ROD meeting. The two purposes of this meeting are (1) to identify data gaps in the RI/FS and (2) to develop a schedule for completing the ROD process. Data gaps should be minimal if the RPM closely monitored the contractor's preparation of the RI/FS. It is important to identify and begin to resolve

EXHIBIT 5-2
The ROD Process



issues associated with the alternatives. A pre-ROD briefing for Headquarters staff, convened prior to transmittal of the RI/FS Report for public comment, may be necessary for technically complex sites or when significant policy issues exist. For example, when the selected remedy does not attain or exceed applicable environmental standards, a pre-ROD briefing for Headquarters staff is required.

5.2.2 ROD Package

The three elements of the ROD Package are:

- ROD
- Summary of Remedial Alternative Selection
- Responsiveness Summary.

The following three sections describe these ROD Package elements.

In order to expedite the ROD process, as much as possible of the ROD Package should be prepared during the public comment period. Usually, the RPM can draft most of the ROD Package; the exception is the Responsiveness Summary. The Region may choose to use the REM contractor staff and resources to assist in preparing the ROD Package. Drafting the ROD Package at this time tends to clarify thinking and brings issues to the surface.

5.2.2.1 ROD

The ROD is a short document (2-5 pages), signed by either the RA or AA/OSWER, that officially documents the remedy selected. The ROD has three sections:

- Documents Reviewed -- lists the documents reviewed in selecting among remedial alternatives; this list would include but is not limited to the RI/FS Report, the Summary of Remedial Alternatives Selection, and the Responsiveness Summary
- Description of Selected Remedy -- describes the major components of the remedy and operation and maintenance requirements (if applicable)
- Declarations -- documents that the decision is consistent with CERCLA, SARA, and the *NCP*, that it is cost effective, and provides adequate protection of public health, welfare, and the environment.

Concurrently with the RI/FS Report public comment period, the RPM should prepare a draft ROD. The content and format for the ROD are described in Exhibit 5-3 (see also the *ROD Guidance*). The RPM should have been reviewing previously approved RODs on an ongoing basis. At this time, the RPM should focus on RODs with similar issues by using the ROD key word index available in the *Superfund ROD Update* or *ROD Annual Report*.

EXHIBIT 5-3

Record of Decision Remedial Alternative Selection

SITE: [Site name, location]

DOCUMENTS REVIEWED

I am basing my decision primarily on the following documents describing the analysis of cost-effectiveness of remedial alternatives for the [site name]:

- [Site name] Remedial Investigation
- [Site name] Feasibility Study
- Summary of Remedial Alternative Selection
- Responsiveness Summary
- [Other relevant reports or documentation of the remedy selection process]

DESCRIPTION OF SELECTED REMEDY

- [List major components of remedy]
- [List operation and maintenance requirements, if funding will be requested]

Note: Care must be taken to list all documents used to reach the final decision. Secondary references included in the listed documents need not be listed here.

DECLARATIONS

Consistent with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), the Superfund Amendment and Reauthorization Act of 1986 (SARA), and the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR Part 300), I have determined that the [description of remedy] at the [site name] is a cost-effective remedy and provides adequate protection of public health, welfare, and the environment. The State of [State name] has been consulted and agrees with the approved remedy. [Include the following if appropriate.] In addition, the action will require future operation and maintenance activities to ensure the continued effectiveness of the remedy. These activities will be considered part of the approved action and eligible for trust fund monies for a period of [insert funding period not to exceed 1 year].

I have also determined that the action being taken is appropriate when balanced against the availability of trust fund monies for use at other sites. [Include the following sentence if remedy involves off-site action.] In addition, the off-site transport, storage, destruction, treatment, or secure disposition [use appropriate wording based on actual remedy] is more cost-effective than other remedial action, [include the following if appropriate] and will create new capacity to manage hazardous waste, [include the following if appropriate] and is necessary to protect public health, welfare, or the environment.

Note: Language for fund-balancing waivers or waivers from other environmental regulations will be worked out on a site-specific basis.

[Include the following if appropriate.] The State [or EPA] will undertake an additional remedial investigation/feasibility study to evaluate [describe scope of RI/FS]. If additional remedial actions are determined to be necessary, a Record of Decision will be prepared for approval of the future remedial action.

Date

Assistant Administrator
Office of Solid Waste and Emergency Response
or
Regional Administrator

5.2.2.2 Summary of Remedial Alternative Selection

The Summary provides detailed information on the remedial alternatives reviewed during the FS and ROD process. The Summary of Remedial Alternative Selection must discuss:

- Consistency with the Superfund Amendments § 121
- No action alternative
- Extent of remedy and compliance with other environmental statutes
- Cost estimates
- Cost-effectiveness evaluation
- Off-site transport, storage, treatment, destruction, or disposal of hazardous wastes (if applicable) and compliance with CERCLA § 101(24)
- Responsiveness Summary
- Operation and maintenance.

Other topics that may be appropriate depending on site-specific conditions should also be included in the Summary text.

5.2.2.3 Responsiveness Summary

Following completion of the public comment period, a Responsiveness Summary, which addresses all comments submitted by the public, PRPs, and States, should be prepared as an attachment to the ROD. The Responsiveness Summary may be prepared by the REM contractor, but ultimately the RPM is responsible for ensuring its accuracy and completeness. The Responsiveness Summary documents for the public record:

- Comments raised before or during the public comment period on the RI/FS Report
- How EPA considered and responded to these comments.

Further information on the format and content of a Responsiveness Summary is presented in Appendix F. In preparing the Responsiveness Summary, the RPM should coordinate closely with the community relations staff to obtain their input. The draft ROD and the selected remedy may need to be revised in response to public comment.

5.2.3 Draft ROD and Responsiveness Summary Review

The State and appropriate Regional program offices must review and concur on the draft ROD and Responsiveness Summary. The State's concurrence should be documented in a letter from the appropriate State official to the RA. The Regional review process should include all concerned offices, but at a minimum should include ORC and

the enforcement staff. The RPM should also submit a copy of the draft ROD and Responsiveness Summary to Headquarters.

The key to an efficient review process is the early involvement of the concerned reviewers. By seeking State, ORC, enforcement, and other relevant inputs (e.g., Headquarters) during the RI/FS, the RPM can minimize the occurrence of last minute issues and concerns. For RODs to be signed by the AA/OSWER, or when consultation is required, Headquarters will usually review the draft ROD to ensure consistent decision-making among the Regions and adherence with the latest Agency policies.

5.2.4 ROD Approval

The last step in the ROD process is the ROD briefing to obtain the RA's or AA's approval of the recommended action. The format and contents for ROD briefing materials are presented in Appendix F. The RPM usually prepares the briefing materials (sometimes with REM contractor support) and may be asked to present them to the RA. The RPM should consider attending one or more other ROD briefings in the Region as a preparatory exercise.

For RODs that must be approved at Headquarters, the RPM should prepare and coordinate the State and Regional review prior to submission to EPA Headquarters. The RPM must ensure that the official submission is sent to the AA/OSWER, and should include a cover memorandum from the RA. The memorandum should summarize the proposed project and present the State's and Region's recommendations to approve the action. A copy of the complete submission should be sent directly to the Director, HSCD.

During the briefing for the RA or AA/OSWER, a number of last-minute questions or issues may arise. This usually results in accelerated activity as the RPM coordinates and facilitates the resolution of these last-minute issues. Once these issues are resolved, the RA or AA/OSWER signs the ROD.

5.3 TRANSITION TO DESIGN

During the ROD process, there are a number of steps the RPM can take to ensure a smooth transition to the RD. If all activities are coordinated properly, the lag time between ROD approval and RD initiation can be minimal. To accomplish this transition, the RPM must:

- Have initiated Phase I design with the USACE no later than the beginning of the public comment period
- Draft and finalize site-specific design Interagency Agreements with the USACE (ideally, this should be available for signature concurrently with the ROD)
- Oversee preparation by the REM contractor of the Pre-Design Report (see Chapter 6)
- Provide remedial planning information (including the Pre-Design Report) to the USACE in order to initiate design

- Make the determination, in conjunction with enforcement staff, that the PRPs will or will not undertake *both* the RD and RA before initiating RD.

These activities are discussed in the next chapter and in the *Superfund Remedial Design and Remedial Action Guidance*, June 1986.

ADDITIONAL SOURCES OF INFORMATION

"CERCLA Compliance with Other Environmental Statutes," AA/OSWER, October 2, 1985. (OSWER Directive 9234.0-2)

Community Relations in Superfund: A Handbook Draft, OSWER, March 1986. (OSWER Directive 9230.0-3A)

National Oil and Hazardous Substances Pollution Contingency Plan (47 FR 31180), November 20, 1985.

Preparation of Decision Documents for Approving Fund-Financed and Potentially Responsible Party Remedial Actions Under CERCLA OWPE, February 27, 1985. (OSWER Directive 9340.2-1)

"Procedures for Planning and Implementing Off-Site Response Actions," AA/OSWER, May 6, 1985. (OSWER Directive 9330.2-1) (supplemented by 9330.2-3)

Record of Decision Annual Report OERR.

"Superfund Records of Decision Update," OERR, Monthly.

Superfund Remedial Design and Remedial Action Guidance, OERR, June 1986. (OSWER Directive 9355.0-4A)

6. REMEDIAL DESIGN

The purpose of the remedial design is to develop detailed plans and specifications for conducting the remedial action. During Federal-lead RD and RA, the USACE has served as contract manager for design and construction of the EPA-approved remedy. The USACE continues to perform in this role, when assigned. In a few special cases, other Federal agencies, such as the U.S. Department of Interior or the U.S. Department of Energy, or the REM contractors have assumed this role. The design contract manager will perform the following basic tasks:

- Solicit and select contractors to perform RD and RA activities
- Review and approve RD plans and specifications
- Monitor construction activities.

However, the RPM retains responsibility for overseeing RDs and RAs at Federal-lead Superfund sites.

This chapter discusses the RPM's role and responsibilities during the development of an RD. It discusses specific activities for which the RPM must initiate and supervise action, promote and coordinate oversight, and act in a review/advisory capacity. The *Superfund Remedial Design and Remedial Action Guidance*, June 1986 (*RD/RA Guidance*), contains a detailed description of the RD/RA process and is the primary reference document for this and the following chapter on RA. As in other chapters, Exhibit 6-1 highlights the major activities that occur during this stage of a remedial response and thus provides a foundation for the following discussion. In addition, Exhibit 6-2 provides a detailed representation of the Federal-lead RD process. For simplicity, the handbook describes the case where the USACE is the design contract manager.

6.1 ONGOING PROJECT MANAGEMENT ACTIVITIES

Numerous ongoing project management activities are common to all phases of RD and RA. Specific actions required during the RD process are outlined below.

6.1.1 Coordination with State

During the RD phase, the RPM should coordinate with State officials to apprise them of site progress and to receive their input on all aspects of the RD. This should include review of the design as it is developed. The RPM should make every effort to involve the State in design review, since the State ultimately must assume responsibility for the remedy after its implementation.

In initiating RD activities at a Federal-lead site, the RPM must begin discussions with State officials to process a State Superfund Contract. The RPM and State officials should refer to the *State Manual* for specific information on the initiation, execution, and amendment procedures for agreements.

The State is responsible for obtaining site access and any required permits. The RPM should assist in and coordinate these activities to see that access is obtained.

EXHIBIT 6-1 Remedial Design (RD)

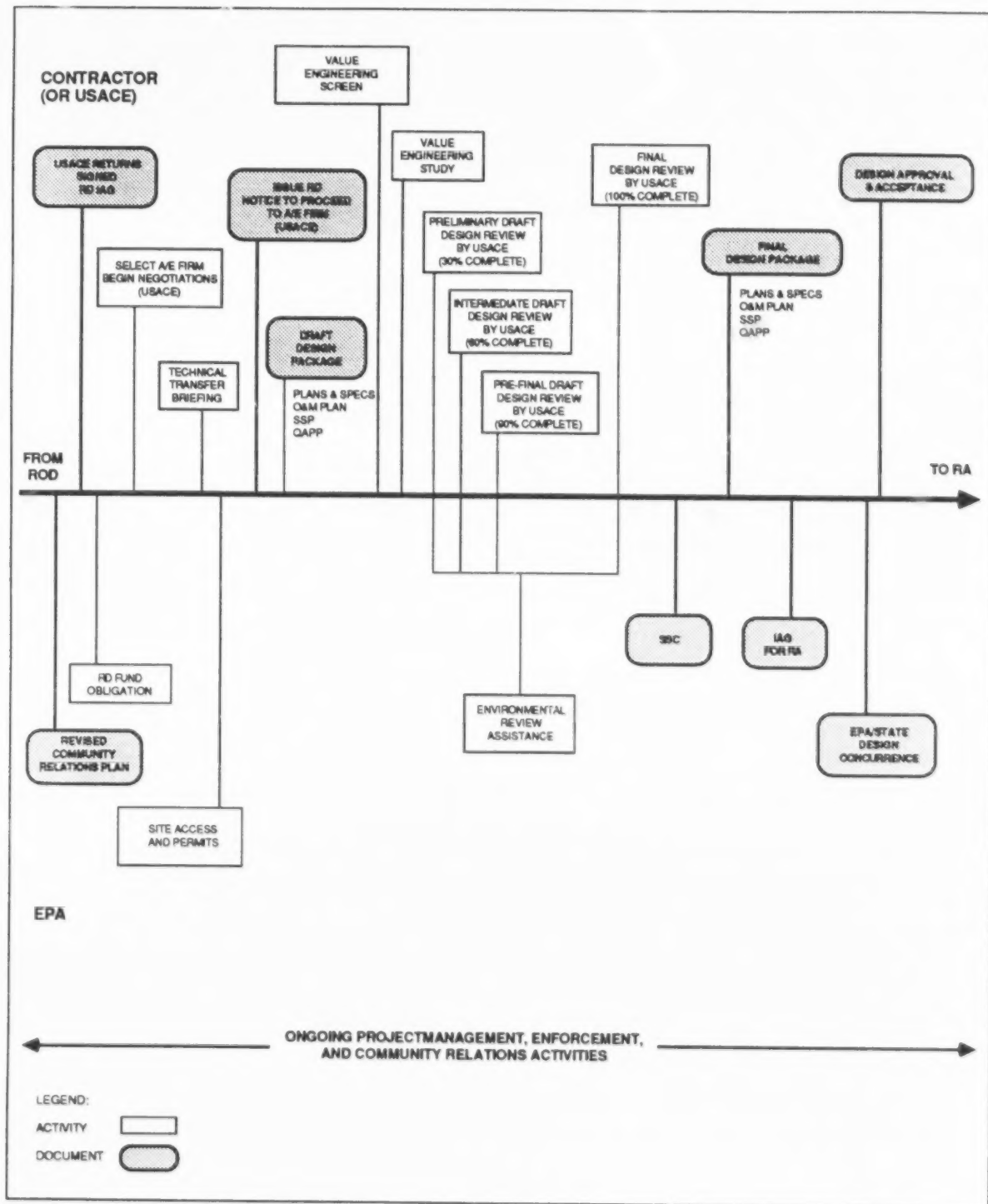
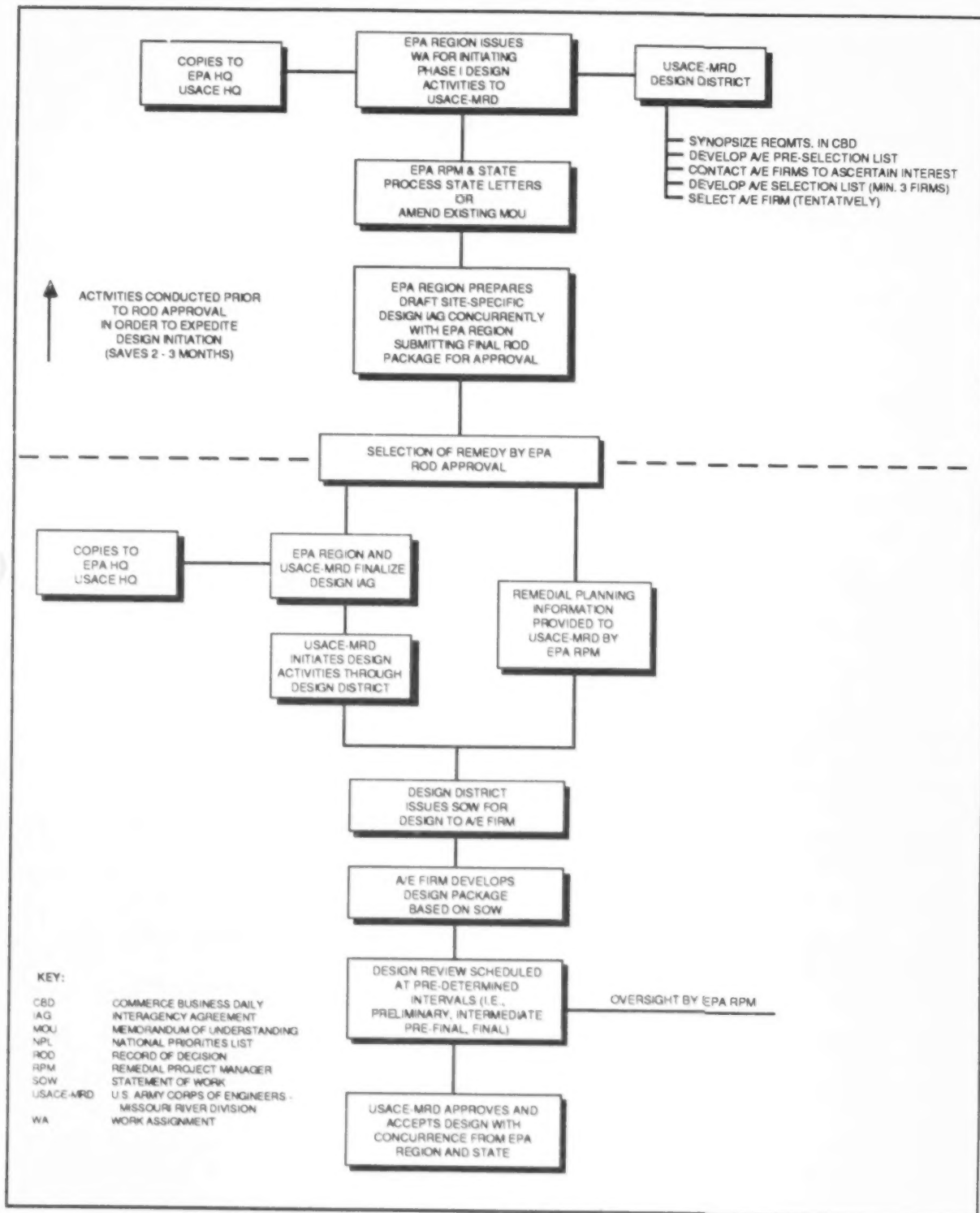


EXHIBIT 6-2 Federal-Lead Remedial Design Activities



6.1.2 Reporting and Record Keeping

The RPM is responsible for maintaining thorough, accurate records during the RD. This includes site files and relevant documentation that will support potential cost recovery actions. The RPM also may be requested to assist in preparing a cost recovery summary at the completion of the RD.

One continuing RPM responsibility is the periodic updating of information for EPA's automated data systems. These systems include:

- CERCLIS -- RD start (date RD funds were obligated) and end dates (dates implementation contract was advertised) must be entered.
- SCAP -- official mechanism through which the AA/OSWER identifies funding needs for proposed Superfund activities. The RPM must coordinate with the Regional SCAP contact to ensure that accurate information on RD activities appears on the SCAP prior to the RD start. The SCAP must be updated as the RD progresses so that funding needs for the subsequent RA are identified in a timely fashion.
- FMS -- provides monthly and ad hoc financial status reports on the remedial program, which the RPM must review for accuracy.

6.1.3 Technical Progress Oversight

The RPM is responsible for overseeing technical progress during the RD. The RPM should review all contractor progress reports to ensure that progress reported coincides with actual performance. One particularly valuable oversight tool is the RD schedule. The RPM should closely track RD progress against the agreed-upon project schedule to determine whether problems exist. Significant, persistent delays or accelerations may indicate the need to adjust the project schedule.

In addition, the RPM should work closely with the USACE officials to oversee the architectural and engineering (A/E) contractor's activities during all phases of the design preparation. The RPM should establish milestones for design review that will coincide with specific events in the RD. Representatives of the USACE and the A/E firm should be present at these meetings to discuss progress and cite problems, if any. Good, informal communication among all participants in the RD, facilitated by the RPM, also can prove invaluable to project oversight.

6.1.4 Coordination with Community Relations

The RPM must maintain communication with the Regional community relations staff in order to coordinate:

- Participation in public meetings
- Development of fact sheets
- Issuance of press releases
- Establishment of local information repositories
- Public comment period (optional).

This will ensure that the public is involved in the decision-making process during the RD. The RPM also should encourage State involvement with community relations activities.

Based on input from the public participation process described above, the site Community Relations Plan must be revised, as necessary, to reflect knowledge of citizen concerns and involvement. At the conclusion of the engineering design, a fact sheet is prepared either by EPA or the contractor responsible for community relations implementation. The purpose of the fact sheet is to notify the public that the design is complete, that the design is consistent with the ROD, and to explain the nature of the design and the potential impacts its implementation may cause. A public meeting is recommended at this point.

6.1.5 Obtaining Permits and Site Access

The RPM is ultimately responsible for identifying all required permits and obtaining site access agreements. However, obtaining access to the site and adjacent properties, as well as any rights-of-way and easements necessary to implement the RA, is a State responsibility. The RPM must encourage the State to take action during Phase I design contractor procurement to obtain any required permits or site access agreements for the RD and (concurrent with the design for) the RA, in order to avoid delays in implementing the project. This is very important to implementing the project according to its schedule. The USACE will not open bids submitted for the RA unless site access is secured.

The permits and approvals that may be required for a project depend on the circumstances of the particular project, but might include, for example:

- Permits All on-site and off-site RAs must comply with the substantive requirements of applicable and relevant and appropriate laws and standards identified in the ROD/EDD. While environmental permits are not required for on-site RAs, any receiving facility for material taken off site must possess all appropriate environmental permits identified in the ROD/EDD. Obtaining any necessary, non-environmental construction permits is the responsibility of the RD A/E firm or construction contractor.
- Site Access Access to sites where clean-up actions require short- or long-term use of adjoining property or property within the site boundaries may require obtaining access agreements from, or negotiation of rights-of-way with, the property owners. The same is true of property along proposed pipeline routes. In order to ensure that bid opening and remedial construction will not be delayed due to disputes with property owners, it is essential that such agreements be obtained prior to completion of the RD.

The RPM must coordinate closely with the RD A/E firm to define access needs for the RA. If voluntary access cannot be obtained and resistance from property owners is encountered, the State should make every effort, to the extent of its legal authority, to secure site access. If necessary, EPA may be required to exercise its statutory authority under CERCLA as amended by SARA, in which case an appropriate access order for entry may have to be secured from a court having legal jurisdiction.

Property access agreements must cover the duration of the cleanup and associated O&M, as necessary. The RPM is responsible for overseeing all site access negotiations and agreements, regardless of whether they are obtained through Federal or State channels.

6.2 REMEDIAL DESIGN PROCESS

In addition to the responsibilities outlined above, the RPM has direct involvement in many of the key phases of RD, such as design initiation, preparation of the SOW for the USACE which is attached to the IAG, and conducting various reviews. These responsibilities are outlined in the following sections.

6.2.1 Work Assignment Issuance and Tentative A/E Selection

The RPM should initiate the selection process for obtaining the A/E firm for RD prior to the final ROD approval. A work assignment is to be developed and issued, consistent with the standing IAG, to the USACE-MRD to initiate the Phase I design. The Phase I design will be based on the draft FS Report, and will serve as the basis for further action. Phase I design activities typically require 10 weeks to complete. Therefore, they generally should be initiated no later than the start of the public comment period.

Phase I design activities usually include:

- Synopsize requirements in the *Commerce Business Daily*
- Designate A/E pre-selection and selection boards
- Develop an A/E pre-selection list
- Contact A/E firms to ascertain interest in the project
- Develop an A/E selection list
- Tentatively select an A/E firm.

The USACE also keeps a number of A/E firms constantly available by means of an "open-ended" contract. With this type of contract, the USACE tasks an A/E firm, which is on a pre-determined list, with a site-specific assignment, thereby expediting the selection process by avoiding site-specific contracting activities. This type of contract has both an annual, nationwide cost ceiling and a site-specific cost ceiling, and is generally used on smaller projects where timing is critical. Should the "open-ended" contract be used, the RI/FS and Pre-Design Reports are employed to bring the A/E firm up to speed as quickly as possible. Funds can be routed quickly to the A/E firm through the USACE by means of technical assistance funding. Contact the USACE for further information on the use of the "open-ended" contract.

A generic IAG may be established for all Phase I RD assignments to be conducted during the fiscal year. As a result, only a work assignment is needed to initiate site-specific Phase I RD activity. A sample work assignment and IAG for Phase I design are provided in Appendix E. It is the RPM's responsibility to monitor the preliminary A/E selection process conducted by the USACE and to offer technical assistance and review as needed.

6.2.2 Design Initiation

Following the selection of a remedy and approval of the ROD by the designated EPA official, design activities are initiated. The RPM must provide the following assistance to the USACE.

6.2.2.1 Approved ROD and Final RI/FS Report

The RPM must provide a copy of the approved ROD and the final RI/FS Report(s) to the USACE as soon as possible after ROD approval.

6.2.2.2 Pre-Design Report

The Pre-Design Report describes the engineering parameters and institutional concerns of the selected remedy. The report, prepared by the REM contractor, consolidates all pertinent information needed for transferring the project to the USACE.

The RPM is responsible for overseeing the preparation and transmittal of the Pre-Design Report. As a general guideline, the report should be completed within two weeks following remedy selection, with the cost limited to less than five percent of the FS cost. If the remedy selection took a long time and the REM contractor was idle, more than two weeks may be required. It is EPA's intention that the Pre-Design Report be completed as quickly as possible and that it generally be a compilation and condensation of existing work, which would not require significant new effort. Exhibit 6-3 presents a suggested outline for the Pre-Design Report.

6.2.2.3 Site-Specific Design IAG (Phase II Initiation)

The RPM must finalize the required site-specific design IAG to initiate Phase II activities by the USACE-MRD. After the design IAG is executed, the RPM forwards copies to both EPA Headquarters and USACE Headquarters. USACE-MRD then will initiate design activities through the appropriate design district. The RPM should monitor all design activities.

A sample site-specific design IAG is included in Appendix E. This document includes a SOW prepared by the Region for the USACE. The form is to be completed by the RPM, signed by the Regional Administrator or designee, and submitted to USACE-MRD for approval. The site-specific design IAG can be signed at the same time as the ROD when enforcement negotiations are not planned. Details concerning preparation of the IAG SOW and additional USACE responsibilities are provided in the Superfund RD/RA Guidance.

6.2.2.4 Statement of Work Preparation

The SOW for RD is prepared by the USACE and requires that the design contractor develop final construction plans and specifications to accomplish an RA as defined in the ROD. Elements of the SOW include:

- Plans and Specifications required to comply with certain USACE standards and review requirements:
 - Preliminary design (30 percent complete)
 - Intermediate design (60 percent complete)
 - Pre-final design (90 percent complete)
 - Final design package (100 percent complete)
 - Correlating plans and specifications
 - Compliance with the requirements of other environmental statutes
 - Equipment startup and operator training plans

EXHIBIT 6-3
Suggested Outline for Pre-Design Report *

1. Site Description
 2. Summary of Selected Remedy
 - Description of remedy and rationale for selection
 - Performance expectations
 - Site topographic map and preliminary layouts
 - Preliminary design criteria and rationale
 - Preliminary process diagrams
 - General operation and maintenance (O&M) requirements
 - Long-term monitoring requirements
 3. Summary of Remedial Investigation and Impact on Selected Remedy
 - Field studies (air, surface water, ground water, geology)
 - Laboratory studies (bench scale, pilot scale)
 4. Design/Implementation Precautions
 - Special technical problems
 - Additional engineering data required
 - Permits and regulatory requirements
 - Access, easements, rights-of-way
 - Health and safety requirements
 - Community relations activities
 5. Cost Estimates and Schedules
 - Implementation cost estimate (order of magnitude, + 50%/-30%)
 - Preliminary estimate of annual O&M cost and duration
 - Project schedule (design, construction, permits and access)
 6. Appendices
 - Reports, data summaries, etc.
- * Many of the elements of the Pre-Design Report will have been developed during the RI/FS. These may be incorporated by reference.

- Additional Studies necessary to supplement existing technical data (e.g., bench and pilot studies)
- Operation and Maintenance defined and cost estimates prepared
- Quality Assurance Project Plan developed to identify quality control and assurance responsibilities of the contractor, EPA, and the Federal agency
- Site Safety Plan (SSP) developed in response to site-specific data to protect on-site personnel and surrounding communities from the physical, chemical, and/or biological hazards of the site.

Detailed instructions for developing the SOW are found in Appendix B of the *RD/RA Guidance*.

6.2.2.5 A/E Selection Oversight

The RPM is responsible for monitoring A/E firm selection by the USACE to ensure that there are no potential conflicts of interest based on involvement of PRPs at the site. Interested contractors are required to provide information regarding conflict of interest, which the RPM must evaluate prior to execution of a contract between the USACE and the A/E firm.

6.2.2.6 Technical Transfer Briefing

A technical transfer briefing between the REM contractor and the USACE design contractor must be scheduled and coordinated by the RPM prior to initiating RD. This will help to facilitate project transfer and resolve any outstanding issues or questions. The RPM should invite State and local officials and other EPA staff members to participate, as appropriate.

6.2.3 Design Development and Review

The USACE has the primary responsibility for the review, approval, and acceptance of the final plans and specifications. As stated in Section 6.2.2 above, the plans and specification should be submitted in several stages. The RPM, together with State officials, must provide environmental and technical assistance to the USACE at each stage of the design review.

6.2.3.1 Environmental Review

The RPM must coordinate the environmental review to ensure that the specifications include all elements necessary to address compliance with the environmental and public health standards identified in the ROD. The environmental review will ensure that currently accepted environmental control measures and technology are utilized during construction, and that the O&M plan, QAPP, and SSP specifications are adequate. The RPM may solicit the assistance of other EPA personnel to review the design plans and specifications. For example, the Emergency Response Team (ERT) may review SSPs.

6.2.3.2 Technical Review

Technical review of the pre-final design is the responsibility of the USACE, with concurrence by EPA.

6.2.4 Approval of Design

The USACE-MRD has the authority to approve and accept the final design.

6.2.5 Major Design Changes

The EPA RPM is responsible for ensuring that the design package being developed by the USACE and its A/E contractor is consistent with the ROD. If major design changes are observed that would significantly alter the remedy approved in the ROD, the RPM should initiate a preliminary analysis of the impact of the changes, and, if necessary, notify the USACE design Project Officer (PO) in writing to temporarily halt design activities. Further, the RPM should immediately notify the EPA official who has been delegated ROD responsibility. Examples of major design changes are included in the *RD/RA Guidance*. The official must determine whether the design changes warrant a ROD amendment. Minor design changes, consistent with the approved ROD, may be approved by the design PO with concurrence from the EPA RPM.

For fund-financed projects, the USACE should conduct a value engineering screening during the RD. In a value engineering screening, an RA project is examined to determine minor modifications or refinements, such as in materials specifications and/or quantities, that may result in reduced costs. It usually consists of reviewing the project design, listing high-cost items that have a potential for cost savings, and considering the use of potential, viable alternatives that do not reduce the effectiveness of the design. Value engineering screenings, however, must be limited to consider only those project refinements that would not significantly alter or change the remedy as approved in the ROD.

The USACE will notify EPA of those RA projects that were found in the screening to have a potential to save substantial costs during the RA and to be candidates for formal value engineering studies. Further, the USACE will identify potential effects of the formal study on the project schedule and provide an estimate of additional funding requirements, if any. If additional funding is required for the formal value engineering study, when found appropriate, the RPM must ensure that sufficient money is made available through the SCAP and added by amendment to the IAG.

6.2.6 Coordination of Remedial Action Agreements

In order to initiate the RA, the RPM must work with the State to prepare and execute a State Superfund Contract for all Federally managed remedial actions. The purpose of the SSC is to secure State assurances for cost sharing, site access, and O&M. Preparation of the agreement should be initiated during the RD phase; execution of the SSC must coincide with the completion of the RD.

When the RD package is complete and the final RA cost estimate is available, a site-specific IAG for the RA is prepared and executed by the EPA Regional office and the USACE-MRD. Refer to the *RD/RA Guidance* for information on the development of RA cost estimates for inclusion in the SSC and IAG. The RPM should forward copies to EPA Headquarters and to USACE Headquarters. A sample site-specific IAG for RA is shown in Appendix E.

ADDITIONAL SOURCES OF INFORMATION

Superfund Remedial Design and Remedial Action Guidance, OERR, June 1986. (OSWER Directive 9355.0-4A)

State Participation in the Superfund Program, Volume I, OERR, February 1984. (OSWER Directive 9375.1-4)

7. REMEDIAL ACTION

Following the completion and approval of the remedial design package, the remedial action is implemented. The conclusion of the previous chapter described the preliminary activities that must be conducted by the RPM in initiating the RA. These include execution of the required agreement (i.e., State Superfund Contract) between EPA and the State and completion of a site-specific Interagency Agreement (See Appendix E). The USACE performs as the construction contract manager, when assigned. In some cases, other Federal agencies or the REM contractors may assume this role.

Upon execution of the IAG or work assignment by the USACE (or other construction contract manager), implementation of the RA can begin. It starts with the solicitation and award of an implementation (i.e., construction) contract, continues through completion of interim and final inspections and certifications, and culminates with acceptance of the final project. Exhibit 7-1 shows the sequence of activities that normally are undertaken in implementing an RA.

The purpose of this chapter is to outline the RPM's responsibilities in ensuring that the RA is implemented in accordance with the approved design. Although primary responsibility for the actual implementation rests with the USACE (or other construction contract manager), the RPM must stay involved to the extent possible in order to participate in and coordinate required inspections, reviews, and approvals. As in other chapters in this handbook, ongoing project management activities are first described, followed by a more specific elucidation of RPM responsibilities. For simplicity of presentation, the handbook describes the case in which the USACE is the construction contract manager.

7.1 ONGOING PROJECT MANAGEMENT ACTIVITIES

Numerous ongoing project management activities are common to all portions of remedial implementation. Specific activities required during the RA are outlined in this section.

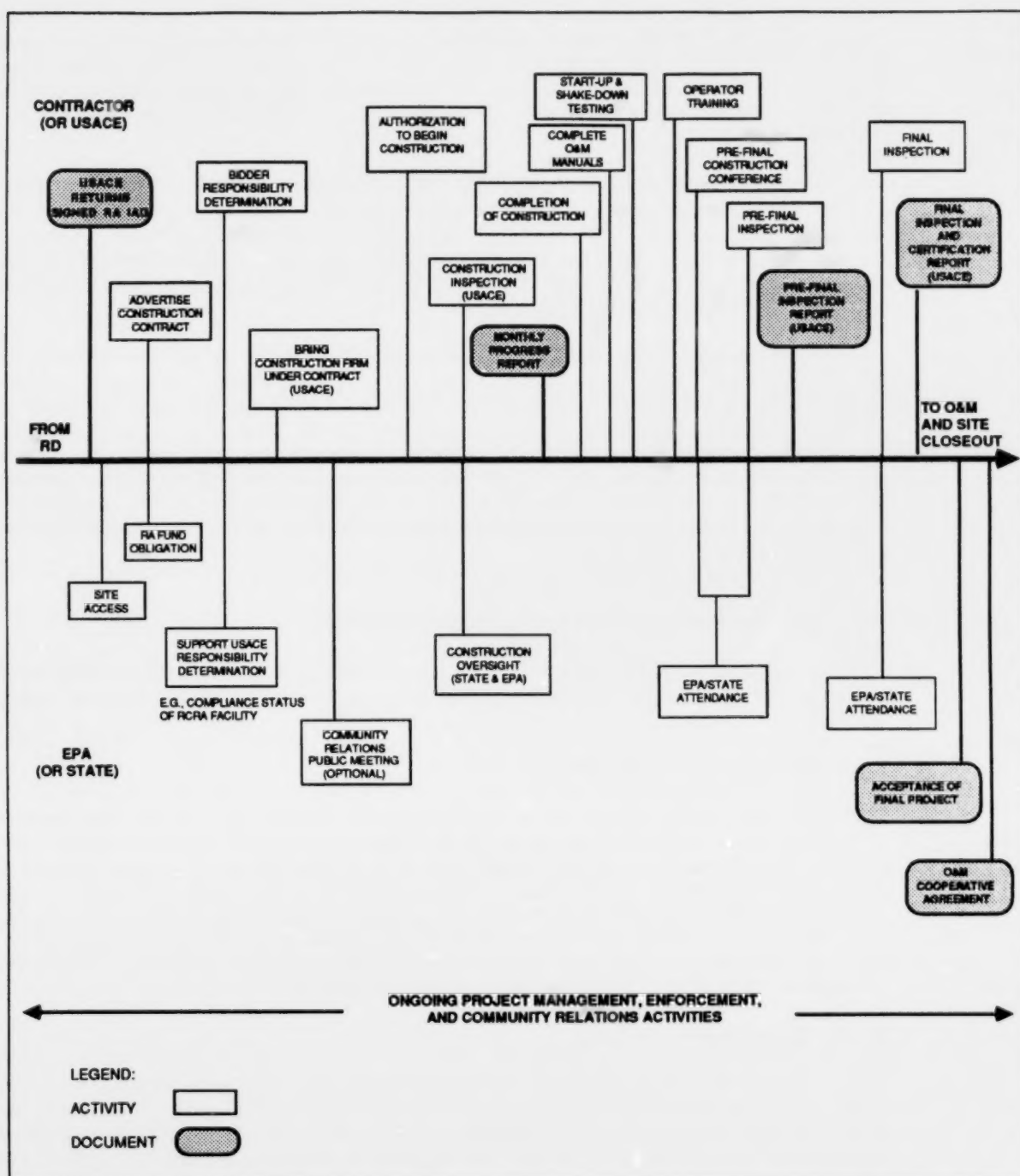
7.1.1 Permits and Site Access

During the RD phase, the RPM should have ensured that all required permits were identified and site access agreements obtained for design implementation. The RPM is responsible for ensuring compliance with all permits and the requirements of access agreements. It is the State's responsibility to obtain access to the site and adjacent properties, as well as rights-of-way and easements necessary to implement the RA. Even so, the RPM should ensure that site access agreements are negotiated, because the USACE will not open RA bids unless site access has been secured. Further information on this subject has been provided in Chapter 6.

7.1.2 Coordination with State

During the RA phase, the RPM should coordinate with State officials to inform them of progress and to obtain their input on all aspects of the RA. It is very important that States be kept informed of site work during the RA. This will help to ease the process of transition in which the State assumes responsibility for the completed remedy. The RPM should:

EXHIBIT 7-1 Remedial Action (RA)



- Prepare amendments to the Superfund response agreement (i.e., SSC), as necessary
- Ensure that the State provides its cost share, in accordance with the payment schedule in the SSC
- Coordinate with the Regional Financial Management Office to ensure proper handling of State payment vouchers and accounts, particularly upon activity completion and SSC closeout so that accounts can be reconciled for final State cost share
- Coordinate State participation in inspections, conferences, and other reviews
- Assist in preparing amendments to the Cooperative Agreement for O&M, if required.

In addition, the RPM should coordinate and facilitate the State's involvement in all community relations activities.

7.1.3 Reporting and Record Keeping

Throughout the RA, the RPM is responsible for maintaining thorough, accurate records. The RPM must maintain site files and relevant documentation for the purposes of future cost recovery actions, as well as possible external audits. The RPM also must ensure that the USACE and the RA contractor maintain relevant documentation.

Periodic updating of information for CERCLIS, SCAP, and FMS is a continuing responsibility of the RPM.

7.1.4 Change Orders/Claims Review and Approval

Problems may arise in the course of the RA concerning implementation of the design. Among these may be change orders and claims. Change orders are written orders issued in response to a request for an addition to, deletion from, or revision of the project specification. The need for change orders usually arises when the RD is insufficient, for whatever reasons, to meet site conditions, and it is necessary to modify the RA within the original scope approved in the Record of Decision and the construction contract. A claim may arise when a request for a change order, submitted by a contractor engaged in the RA, has been denied or not handled according to pertinent procurement requirements and policies. Claims are usually filed after the completion of a subagreement.

The USACE is responsible for processing change orders and claims in accordance with USACE procurement procedures. The USACE's project manager has the authority to approve any change order requiring expenditure of up to 20 percent of the project contingency fund, which is available for unforeseen site conditions. Any change order exceeding 20 percent of the contingency fund requires RPM approval. The RPM will be notified in writing by the USACE's project manager if a total of 75 percent of the contingency fund is expended. In order to exceed 75 percent of the project contingency fund, the RPM must provide written approval. The RPM should identify changes or new conditions requiring additional funding as soon as their need becomes apparent, and must ensure that the money is available through the SCAP process.

Prompt action is needed in these situations to avoid project delays and additional claim actions.

7.1.5 Coordination with Community Relations

The RPM is responsible for informing the Regional community relations staff of any changes in RA activities or progress that could affect the level of concern or information needs of the community. The RPM should request assistance from the Regional community relations staff on any specific community relations activities required during construction, and for ongoing activities such as participation in public meetings and development of fact sheets and/or press releases.

7.2 PROCUREMENT OF RA CONTRACTOR

The USACE is responsible for reviewing bid documents for RA activities to determine whether or not the bidders are both *responsive* to the requirements of the bid solicitation (e.g., Are the bid bonds provided in the proper form and amount? Is the required insurance binder provided?) and *responsible* (e.g., Does each bidder possess the capability and experience as required in the solicitation to perform the RA in a safe and timely manner at the price bid? Is there any potential conflict of interest?). It is the USACE's responsibility to review construction contractors' bid packages and award the RA contract. The RPM will coordinate with the USACE to provide assistance throughout the contract award process. A key function for the RPM at this point is the interpretation of EPA's off-site policy.

7.3 CONSTRUCTION MONITORING AND INSPECTIONS

The USACE is responsible for assigning a full-time inspector(s) to be on site during all construction activities. The RPM will make oversight visits at intervals determined by the RPM according to the complexity of the project. The USACE is responsible for inspecting all on-site construction activities to verify compliance with all contractual and environmental requirements and with health and safety procedures. Upon review of construction activities all discrepancies must be noted. The USACE also acts as EPA's agent by signing RCRA hazardous waste manifests. The RPM may be requested to assist in resolving discrepancies, interpreting extent-of-remedy determinations, conducting site inspections, and enlisting State support.

7.4 REVIEW OF PROGRESS REPORTS

The RPM is responsible for reviewing monthly progress reports submitted by the RA contractor and the USACE. EPA will use these progress reports to monitor the remedial construction activities. The content of these reports will be sufficient to develop a chronological record of all site activities and should include the following elements:

- Estimate of the percentage of the project completed and the total project cost to date
- Summaries of the following items for the reporting period:
 - Work performed on the site

- Community relations activities, including community contacts, citizen concerns, and efforts to resolve any concerns
- Change orders and claims made on the contract
- Problems or potential problems encountered
- Status of the contingency fund to date (fund-financed RA only)
- Projected work for the next reporting period
- Copies of contractor daily reports, change orders, RCRA manifests, and laboratory/monitoring data.

7.5 REMEDIAL ACTION COMPLETION AND ACCEPTANCE

The remaining two activities required to complete the RA are the:

- Pre-final conference and inspection
- Final inspection and certification report.

The RPM's responsibilities for the final technical report, O&M assurances, site closeout, and deletion from the NPL are discussed separately in Chapter 8.

7.5.1 Pre-final Conference and Inspection

As the project nears completion, a pre-final construction conference and inspection will be conducted. Participants in the pre-final construction conference and inspection should include the RPM, State officials, construction contractor, the USACE, and the design A/E firm (optional).

The conference will be scheduled and chaired by the USACE. The objective of the conference is to discuss procedures and requirements for project completion and closeout.

The pre-final inspection will consist of a walk-through inspection of the entire project site. The RPM and the State should inspect the completed site work to determine whether the project is complete and consistent with the contract documents. The RPM and the State should identify and note any outstanding construction items discovered. The USACE will prepare a pre-final inspection report for submission to the RPM and the State.

7.5.2 Final Inspection and Remedial Action Report

Upon completion of any outstanding construction items, a final inspection will be conducted. The pre-final inspection report should be used as a checklist by the RPM and the State, with the inspection focusing on the outstanding construction items identified in the pre-final inspection. The contractor's demobilization activities should be completed, except for equipment and materials required to complete outstanding construction items. The RPM and the State should confirm that all outstanding items noted in the pre-final inspection report have been resolved. (If any items remain unresolved, the inspection will be considered a pre-final inspection, requiring another pre-final inspection report.)

Following the final inspection, the RPM and the State should close out the SSC for the RA and determine the State's final cost share. The State's cost share may be made as a final payment or may be reconciled as part of the O&M Cooperative Agreement.

Upon satisfactory completion of the final inspection, the USACE will prepare and submit an RA Report within 60 days after the final inspection. The RA Report is used to judge the effectiveness of the remedy and to assess whether criteria for deleting the site from the NPL have been met. The RPM and the State should review the report jointly. If the RPM and the State concur with the findings of the final inspection/certification report, the Regional Administrator will provide written notice of EPA's acceptance of the completed project. (See Chapter 8 for a more detailed discussion of the RA Report.)

7.6 TRANSITION TO OPERATION AND MAINTENANCE

As the RA nears completion, the RPM must prepare for the transition to O&M. As mentioned previously, the State always assumes sole responsibility for O&M and EPA may provide cost sharing for a period not to exceed one year. In order to ensure a smooth transition, the RPM should meet with the State-lead RPM responsible for the site (if different) and the State's representative to discuss transition roles. This meeting should occur early in the RA activity.

Under the Superfund Amendments, in the case of ground-water or surface water contamination, treatment or other measures taken to restore water quality is considered part of the RA. With respect to such measures, the operation of treatment systems for a period of up to ten years after the construction or installation and commencement of operation will be considered part of the RA. Activities required to maintain the effectiveness of such measures following this period or the completion of the RA, which ever is earlier, will be considered O&M.

When the RA includes construction of a treatment system other than that described above, questions may arise regarding whether the facility start-up and shake-down periods are part of the RA or part of O&M. In some cases, shakedown may last several months. In most cases, the facility shake-down period will be considered part of the RA. Remedy effectiveness must be demonstrated prior to submitting the RA Report for project completion. During the shake-down period, the State is encouraged to:

- Oversee operational testing of the system to ensure treatment effectiveness
- Conduct operator training
- Adjust the O&M procedures manual to reflect actual operating conditions/parameters
- Develop more accurate O&M costs.

More detailed information on O&M is included in Chapter 8, Project Closeout.

ADDITIONAL SOURCES OF INFORMATION

"Procedures for Planning and Implementing Off-Site Response Actions," AA/OSWER, May 6, 1985. (OSWER Directive 9330.2-1) (supplemented by 9330.2-3)

Superfund Remedial Design and Remedial Action Guidance, OERR, June 1986. (OSWER Directive 9355.0-4A)

8. PROJECT CLOSEOUT

This chapter discusses the procedures followed in closing out a Superfund remedial project and the specific responsibilities of the RPM in assisting with the implementation of these procedures. It is divided into three major sections:

- National Priorities List Deletion
- Operation and Maintenance
- Project Closeout.

It does not discuss procedures and responsibilities for closing out an RI/FS, since these were discussed in Chapter 4.

Exhibit 8-1 illustrates the activities that occur during O&M, project closeout, and NPL deletion. The top half of the diagram represents those that are the responsibility of the USACE or the remedial action contractor and the bottom shows those that are the responsibility of EPA and the State.

More detail on much of the information presented in this chapter is provided in the EPA manual entitled *State Participation in the Superfund Program*, February 1984 (the *State Manual*), and *Guidance for Deleting Sites from the National Priorities List (NPL)*, Draft, September 1986. The RPM should review these two source documents in preparing for project closeout. (Note: The final procedures for deleting sites from the NPL currently are being developed; consult with the HSCD Regional Coordinator for the latest guidance.)

8.1 NPL DELETION

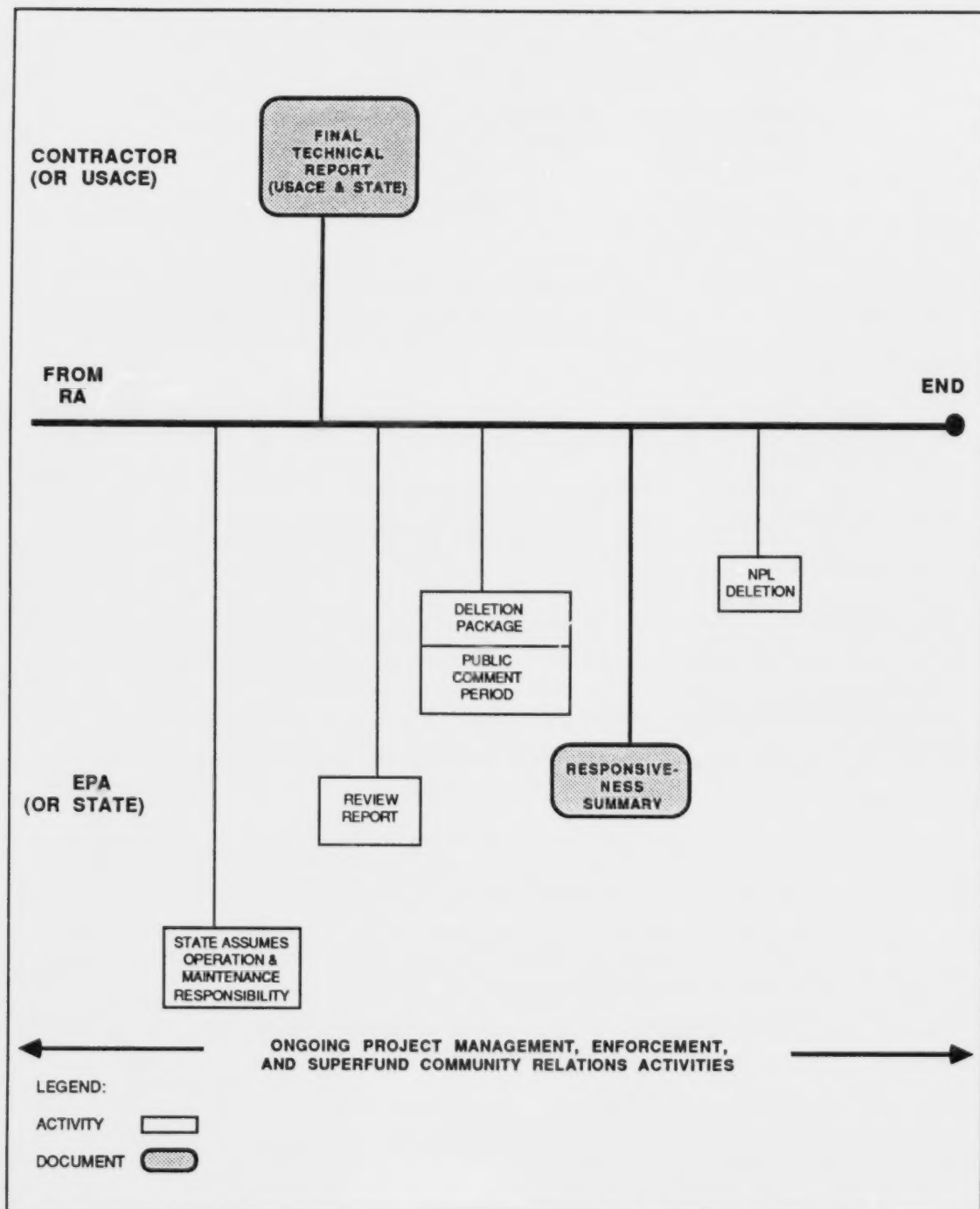
Section 300.66(c)(7) of the *NCP* provides that sites may be deleted from, or recategorized on, the NPL when "no further response is appropriate." To delete a site, at least one of the following criteria must be met:

- EPA, in consultation with the State, has determined that responsible or other parties have implemented all appropriate response actions required
- All appropriate fund-financed response under CERCLA as amended by SARA, has been implemented and EPA, in consultation with the State, has determined that no further response is appropriate
- Based on an RI, EPA, in consultation with the State, has determined that the release poses no significant threat to public health or the environment and remedial measures are not appropriate.

All sites deleted from the NPL are eligible for further fund-financed remedial response actions, should future conditions warrant such actions.

In order to determine that any of the deletion criteria has been met, the RPM should perform a technical evaluation of the data generated from performance monitoring and/or confirmation sampling. These data must demonstrate that the remedy has achieved clean-up levels chosen for the site in the Record of Decision. If the no action alternative is selected, data must confirm that the site poses no significant threat to public health or the environment.

EXHIBIT 8-1
Project Closeout



The process of deleting a site from the NPL consists of three major phases:

- Region/State joint preparation of a deletion package
- Regional/State issuance of local and national Notices of Intent to Delete
- Regional/State preparation of responsiveness summaries and Headquarters' final publication of the Notice Of Deletion in the Federal Register.

EPA's *Guidance for Deleting Sites from the National Priorities List (NPL)*, Draft, provides a more detailed discussion of site categorization for deletion and the deletion process.

8.2 OPERATION AND MAINTENANCE

Following completion of the RA, the State must assume responsibility for any O&M requirements associated with the remedy. This will begin the period during which EPA shares in the costs of O&M, a period not to exceed one year based upon the date of project completion. This date is certified in the RA final inspection report and is formally approved by the AA/OSWER or the Regional Administrator.

The State is required to enter into an O&M Cooperative Agreement with EPA in order to obtain any approved EPA funds for sharing in the O&M costs. The RPM is responsible for assisting the State in developing the O&M CA. A description of the RPM's responsibilities in this regard can be found in the *State Manual* and the *Superfund State-Lead Remedial Project Management Handbook*. The RPM should review both of these guidance documents prior to completion of the RA and make arrangements to meet with State personnel who will be responsible for developing the O&M CA.

In addition to assisting the State in developing the O&M CA, the RPM is responsible for overseeing implementation in terms of technical, financial, and programmatic commitments agreed upon in the CA. This includes the following responsibilities:

- Monitor agreement provisions
- Review the tasks and schedule contained in the O&M plan (see Chapter 6) and the CA
- Track financial activities
- Modify the CA.

Below is a detailed description of the RPM's responsibilities in carrying out each of these activities. It is important to note that although EPA will share O&M costs for a period not to exceed one year, the RPM is responsible for monitoring O&M activities for the entire duration of O&M. Exhibit 8-2 summarizes these responsibilities.

8.2.1 Monitor Agreement Provisions

The RPM must ensure that both EPA and the State meet all provisions in the CA. This includes both general assistance provisions and Superfund program provisions. The RPM is responsible for accomplishing and/or coordinating the commitments made by EPA. Any problems in complying with the provisions must be handled by the RPM,

EXHIBIT 8-2
Operation and Maintenance

ACTIVITY	RPM RESPONSIBILITIES	REFERENCES
1. Monitor agreement provisions	• Ensure that all provisions in the CA are met.	<i>State Manual,</i> February 1984
2. Review the tasks and schedules contained in the O&M plan and the CA	• Monitor tasks and schedules - State reporting by exception - As-needed phone discussions with the SPO - Monthly or quarterly review of State progress reports - Site visits on as-needed basis.	<i>State Manual,</i> February 1984
3. Track financial activities	• Ensure that the State implements the O&M program within its financial commitments in the CA budget - Review State drawdowns on the letter of credit on a quarterly basis - Oversee any transfer of funds from one activity to another - Maintain a complete file of all financial activities - Compare actual cost data in the Financial Status Report with cost data in the O&M plan and the CA.	<i>State Manual,</i> February 1984
4. Modify the CA	• Review the amendment application for technical and/or financial accuracy and program consistency.	<i>State Manual,</i> February 1984

usually through consultation with appropriate sources in the Region, State, or Headquarters.

8.2.2 Review the Tasks and Schedules Contained in the O&M Plan and the CA

While it is the State's responsibility to implement the tasks in the O&M plan, it is the RPM who must actively review these tasks and their schedules. This should be done using formal and informal information sources such as site visits, telephone calls, the State's monthly or quarterly reports, and written correspondence with the State Project Officer. Key elements of the RPM's review strategy should be as follows:

- State reporting by exception, as soon as it is noticed that any task in the O&M plan may not be accomplished. The RPM should come to an agreement with the SPO that any actual or anticipated deviations from the schedule in the O&M plan, and any problems or anticipated problems that may adversely affect the schedule, will be reported to the RPM immediately. The RPM will then be responsible for assisting the SPO in correcting the deviations and/or problems, either through personal support or through the support of other personnel in the Region.
- Telephone discussions, as needed, between the RPM and the SPO to assess progress in accomplishing key tasks and to identify problems affecting the implementation of these tasks. The RPM is responsible for working with the SPO to correct any problems identified.
- Formal quarterly or informal monthly review by the RPM of State progress reports to assess progress in implementing tasks in the O&M plan. The RPM is responsible for contacting the SPO to discuss and resolve any problems identified in the progress reports.
- Site visits by the RPM on an as-needed basis. The objective is to assess task progress against schedules in the O&M plan, identify problems or issues adversely affecting progress and schedules, and develop corrective actions to resolve these problems. Timing of these visits should be based on telephone calls with the SPO or information contained in State progress reports.

8.2.3 Track Financial Activities

Once the O&M CA has been executed, the RPM, along with the appropriate Regional financial management personnel, is responsible for ensuring that the State implements the O&M program within its financial commitments in the CA budget. This responsibility pertains only to the O&M cost-sharing period.

On a quarterly basis, the RPM should review State drawdowns on the letter of credit. This information should be available from appropriate Regional financial management personnel. The RPM may request that the SPO submit a copy of the standard financial report directly. The RPM should determine whether:

- Expenditures correspond to technical progress
- Expenditures are excessive in terms of project needs
- CA account structures are being followed.

Drawdowns should be only for EPA's percentage of funding (e.g., 90 percent of total costs). Equipment expenditures must be conducted in accordance with EPA's *Procurement Under Assistance Agreements*, 40 CFR Part 33, and Appendix T of the *State Manual*.

The RPM is responsible for keeping a complete file of all financial activities, as well as entering appropriate financial data into the CERCLA Information System data base. The CERCLIS data base should include the O&M start date (the date the CA for O&M is executed) and the O&M completion date (end of the O&M cost-sharing period).

Within 90 days after completion of the O&M cost-sharing period, the State is required to submit a Financial Status Report (EPA Form 269) to the RPM. The RPM should compare the data in this report with the data in the O&M plan and CA to make sure that actual expenditures are in line with planned expenditures. If they are not, the RPM should contact the SPO to discuss any problems that need to be resolved.

If the RPM and SPO see the need for additional, unanticipated O&M funds, the RPM should assist the SPO in developing an application for a CA amendment (see the *State Manual*).

8.2.4 Operation and Maintenance Report

At the completion of the fund-financed O&M activities, the State must prepare and submit to the RPM an O&M Report. This report should include the following elements:

- Description of O&M activities
- Results of site monitoring, indicating that the remedy meets the performance criteria
- Explanation of future additional O&M (including monitoring) activities.

The O&M Report may be included as part of the State Quarterly Report and should be submitted within 60 days of completion of fund-financed activities.

8.3 PROJECT CLOSEOUT

Upon the satisfactory conclusion of the fund-financed response, the site is closed out. In site closeout, the RPM is responsible for reviewing the final remedial action report submitted by the USACE/RA contractor and for closing out the CA for fund-financed O&M, if applicable. (See the *Superfund State-Lead Remedial Project Management Handbook* and the *State Manual* for details.)

8.3.1 Final Remedial Action Report

If a final technical report is required at the completion of the RA, the RPM should ensure that the report is submitted within 60 days after the completion of the RA has been confirmed. The RPM should stay in frequent contact with the USACE to make sure that this occurs.

In reviewing the final report, the RPM should ensure that the following elements are included:

- Synopsis of the work defined in the SOW and a certification that this work was performed
- Explanation of any modifications to work in the SOW and why these were necessary for the project
- Listing of the criteria, established before the RA was initiated, for judging the functioning of the remedy and explanation of any modification to these criteria
- Results of site monitoring and inspection, indicating that the remedy meets the performance criteria
- Explanation of the O&M (including monitoring) to be undertaken.

If information in one or more of these elements is insufficient, the RPM should contact the USACE representative who was responsible for preparing the report and explain what modifications and additions need to be made. Most important is that the report provide a sufficient basis to judge the effectiveness of the remedy and to assess whether at least one criterion for deleting the site from the NPL has been met.

8.3.2 Final Considerations

Following deletion from the NPL, the site is technically closed out with respect to the Federally funded remedial response. However, the RPM is cautioned to establish, maintain, and safeguard all information collected during the entire remedial response in well-organized site files, such as those emphasized throughout this handbook. All information about the site must be carefully documented to support any future legal or cost recovery actions. These actions may occur years after the data have been gathered. As a result, it is crucial that records be sufficiently detailed and protected to provide a complete and accurate history of the remedial response. In addition, well-organized information will aid the RPM in answering inquiries from Congress or requests from the general public under the Freedom of Information Act .

ADDITIONAL SOURCES OF INFORMATION

Guidance for Deleting Sites from the National Priorities List (NPL) Draft, OERR, September 1986. (OSWER Directive 9320.2-3)

Procurement Under Assistance Agreements (40 CFR Part 33), March 28, 1983.

State Participation in the Superfund Program Volume I, OERR, February 1984. (OSWER Directive 9375.1-4)

Superfund Remedial Design and Remedial Action Guidance OERR, June 1986. (OSWER Directive 9355.0-4A)

Superfund State-Lead Remedial Project Management Handbook OERR, December 1986. (OSWER Directive 9355.2-1)

APPENDIX A
Example Project Plan
(Iteration 1)

Milestone	Actual Schedule (Start/Finish)	Cost	Generic Schedule (Start/Finish)	Cost
Pre-RI/FS				
Intergovernmental review General response objectives/SOW for RI/FS SCAP allocation Enforcement Site Access Funding obligation RI/FS work assignment Work plan memorandum Contractor/EPA meeting Receipt of work plan and supplemental plans Review of work plan and supplemental plans _____ _____ _____				
Approval of work plans				
RI/FS Public Comment/ROD RD RA				

APPENDIX A
Example Project Plan
(Iteration 2)

Milestone	Actual Schedule (Start/Finish)	Cost	Generic Schedule (Start/Finish)	Cost
Pre-RI/FS				
RI/FS				
Public meeting				
Coordination of analytical support				
REM contractor work plan test 1				
REM contractor work plan test 2				
•				
•				
•				
Validation of date				
Technical assistance funds (to COE, if needed)				
Pre-FS meeting				
Draft RI/FS delivered				
ROD delegation analysis				
Design assistance fund to COE				
RI/FS review				
Pre-ROD meeting				

Delivery of public comment FS				
Public comment period/ROD				
Notification of public comment				
Start of public comment period				
Draft ROD				
Responsiveness summary				
ROD briefing				
Final ROD				
ROD signature				
Enforcement negotiations				
RD				
RA				

APPENDIX A
Example Project Plan
(Iteration 3)

Milestone	Actual Schedule (Start/Finish)	Cost	Generic Schedule (Start/Finish)	Cost
Pre-RI/FS				
RI/FS				
Public comment/ROD				
RD				
Pre-design report				
RI/FS closeout				
Funding obligation				
A/E award				
Technical transfer briefing				
Site access permits				
Notice to proceed				
Community relations				
30% design review				
60% design review				
Pre-final (90%) design review				
Final design review				
Value engineering				

SSC signature				
RA				

APPENDIX A
Example Project Plan
(Iteration 4)

Milestone	Actual Schedule		Generic Schedule	
	(Start/Finish)	Cost	(Start/Finish)	Cost
Pre-RI/FS				
RI/FS				
Public comment/ROD				
RD				
RA				
Funding obligation				
Advertisement for bid				
Pre-bid meeting				
Bidder responsibility determination				
Confirmation of compliance of disposal				
facility with RCRA, TSCA, and CWA				
Award				
Pre-construction meeting				
Community relations				
Authorization to proceed				
Submittal of contractor safety plan				
Construction oversight				
Progress report 1				
Progress report 2				
.				
.				
Completion of construction				
Pre-final inspection				
Final inspection				
Final acceptance				
Certificate of completion				
Warranty				
Operation & maintenance				
cooperative agreement				
Final technical report				

Deletion from NPL

APPENDIX B

Work Assignment Procedures for Remedial Contracts

OSWER DIRECTIVE NO.: 9242.3-3A

WORK ASSIGNMENT PROCEDURES FOR REMEDIAL CONTRACTS

November 1986

This document has been prepared for the U.S. Environmental Protection Agency under Contract No.: 68-01-6939. The material contained herein is not to be disclosed to, discussed with, or made available to any person or persons for any reason without the expressed written approval of a responsible official of the U.S.E.P.A.

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ACRONYMS

CO	EPA Contracting Officer
EL	Expenditure Limit
EPA	Environmental Protection Agency
FIT	Field Investigation Teams
LOE	Level of Effort
OERR	EPA Office of Emergency and Remedial Response
PEB	Performance Evaluation Board
PO	EPA Project Officer
PR	Purchase Request
PRP	Potentially Responsible Party
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
RPM	Remedial Project Manager
RPO	Remedial Project Officer
SCAP	Superfund Comprehensive Accomplishments Plan
SOW	Statement of Work
TDM	Technical Direction Memorandum
WA	Work Assignment
WACR	Work Assignment Completion Report
WAF	Work Assignment Form
WP	Work Plan
WPM	Work Plan Memorandum

EXECUTIVE SUMMARY

The EPA Office of Emergency and Remedial Response (OERR) has awarded four contracts for remedial planning activities at uncontrolled hazardous substance disposal sites (REM) throughout the ten EPA Regions across the country. The first REM contract, Remedial Response Field Investigation Teams (REM-FIT), has been completed. The second contract, REM II, was awarded to Camp Dresser & McKee Inc. on June 1, 1984. The third REM contract, REM III, was awarded to Ebasco and REM IV to CH2M Hill.

The purpose of these contracts is to obtain the technical and management services in support of EPA's enforcement and remedial planning activities at selected uncontrolled hazardous substance disposal sites. These services encompass remedial investigations, engineering feasibility studies, oversight of remedial planning and implementation projects performed by states and/or responsible parties, support of community relations programs, data management support of enforcement and cost recovery proceedings, and general program management support. In addition, special subcontracting pools are used to promote the participation of Small and Small Disadvantaged Business Utilization with set-asides. In the REM II, III, and IV contracts, Program Management and support hours are in addition to those technical hours planned for Remedial Response activities.

Other services may include engineering design and implementation of Expedited Response Actions and, in some limited situations, remedial actions. Engineering design services may also be required where a State or EPA require assistance for the design of remedial actions that the State or U.S. Army Corps of Engineers will implement through a construction contract.

The following Work Assignment Procedures for Remedial Contracts package has been developed in order to provide guidance to the Regions and REM contractors. The Work Assignment Procedures package outlines the various steps and stages of a work assignment, from inception through completion. The procedures include a streamlined Work Assignment Form (WAF), provide administrative and contractual procedures to implement the phased RI/FS concept, and place strong emphasis on more regional management control. It should be noted that the following procedures apply to all RCRA and CERCLA Technical Oversight (TOS) and Community Relations (CR) assignments as well. We have concentrated on an RI/FS assignment strictly for the purposes of this guidance package.

INTRODUCTION

1.1 Purpose

This document describes the procedures that are to be used in initiating and monitoring the contractual aspects of a work assignment. The actions that are to be taken by both EPA and the Contractor during each step are described within. The four key steps that are involved in the work assignment process are:

- Step 1- Development and issuance of the work assignment (Figure 2)
- Step 2- Completion of the interim work assignment tasks and approval of the Contractor work plan (Figure 5)
- Step 3- Implementation of the approved Contractor work plan (Figure 7), which includes the following two elements:
 - Technical Direction Memoranda for phased work plan execution
 - Amendments to final work plan approval
- Step 4- Completion of the work assignment and close-out procedures (Figure 12)

1.2 Modifications to the Existing Procedures

Several changes have been made to existing procedures in order to facilitate the management and coordination of Federal-lead remedial projects. These changes are proposed principally to transfer more of the management responsibility of the phased execution of the work assignments to the Regions and streamline authorization and include the following items:

- Development of a single Work Assignment Form (WAF);
- Standardization of detailed interim statements of work that include a detailed description of each interim task, LOE task assignments, estimated budget, and task and deliverable schedules.
- The Work Plan Memorandum (WPM) will be streamlined to a five to ten page document which will outline the work assignment approach and provide cost estimates for the execution of the interim tasks. The WPM can also transmit resume material (if the Region requests) for the key staff proposed for the work and conflict of interest declarations.

The Work Plan Memorandum will be submitted within ten (10) days of receipt of the work assignment.

- Procedures whereby the RPM/RPO provides technical direction for additional phases of work within the scope of work and budget approved by the EPA CO.

1.3 The Work Assignment Form

The Work Assignment Form (WAF) has been developed to manage and coordinate the various activities needed to initiate, approve, and complete a work assignment. This form consolidates all of the work assignment "contractual" activities on one form to eliminate the misuse and misunderstanding associated with having different forms for different phases of the work assignment process. Each successive WAF on a WA supersedes the previous WAF and therefore **ALL** required information must be provided on the updated WAF when submitted. A copy of a blank WAF is provided in Figure 1.

The WAF is a one-page form with instructions provided on the back to facilitate its use. The form allows for more efficient work assignment tracking and provides an up to date work assignment status at any given time. The form is to be used whenever one of the following activities is to be conducted:

- A new Work Assignment is issued by EPA;
- The Contractor requests an Interim Amendment to the work assignment;
- Incremental funding is provided;
- The work plan receives full or partial approval and the total funding authorization is received;
- The Contractor requests an Amendment to the Final Work Plan Approval;
- The Contractor (or RPM) prepares a Technical Direction Memorandum to conduct phased work approved under an existing work plan; or
- EPA requests that an assignment be closed-out.

As shown on Figure 1, the form is divided into six (6) sections as described below:

1. Work assignment information which identifies the project name and activity, the date the form was prepared, the Contractor name and the EPA contract number, the work assignment number, the revision number, which numerically accounts for all contractual activity on the work assignment, and the modification number. The last two are provided by EPA.
2. Description of action defines the status of the submittal covered by the Work Assignment Form. As explained previously, there are eight basic actions that can be taken.

FIGURE 1

USEPA		WORK ASSIGNMENT FORM																			
1 WORK ASSIGNMENT INFORMATION PROJECT NAME: _____ CONTRACTOR: _____ WORK ASSIGNMENT NO.: _____ ACTIVITY: _____ EPA CONTRACT NO.: _____ REVISION NO.: _____ DATE: _____ CONTRACTOR CONTROL NO.: _____ MODIFICATION NO.: _____ Contracting Officer Use Only																					
2 DESCRIPTION OF ACTION: ☐ NEW WORK ASSIGNMENT • Interim SOW, schedule, and LOE • Complete SOW, estimated budget and schedules REQUIRED APPROVAL EPA REGION/ HEADQUARTERS	☐ INTERIM AMENDMENT • Change in LOE, Scope by task • Add additional tasks or funds ☐ INCREMENTAL FUNDING EPA REGION/ HEADQUARTERS	☐ PARTIAL WORK PLAN APPROVAL ☐ FINAL WORK PLAN APPROVAL • Approval of work plan • Add funds ☐ AMENDMENT TO FINAL WORK PLAN APPROVAL • Change in LOE, scope or budget by task • Add additional task or funds (include OF 80 or SF 1411) EPA REGION/ HEADQUARTERS	☐ TECHNICAL DIRECTION MEMORANDUM • Detailed scope, budget and schedule • Revise expenditure level • Minor shift within SOW (All changes must be within overall scope, budget, and LOE approved by EPA CO) EPA REGION	☐ WORK ASSIGNMENT COMPLETION NOTIFICATION (NO ATTACHMENTS) • Contractor originates • Regional determination • When signed by CO, this constitutes a stop work order CONTRACTOR																	
3 BUDGET INFORMATION <table border="1" style="width: 100%; border-collapse: collapse; font-size: small;"> <thead> <tr> <th style="width: 25%;">TOTAL FUNDING RECEIVED \$ *</th> <th style="width: 25%;">INTERIM BUDGET (TECHNICAL LOE) (\$)*</th> <th style="width: 25%;">APPROVED WORK PLAN BUDGET (TECHNICAL LOE) (\$) *</th> <th style="width: 25%;">EXPENDITURE LIMIT (EL) * (TECHNICAL LOE) (\$)</th> </tr> </thead> <tbody> <tr> <td>CURRENT _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>THIS ACTION _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>TOTAL _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> </tbody> </table> * Option - dollar estimate may be tracked regionally in expenditure limit block EPA estimated LOE hours of entire WA _____ ESTABLISHED BY RPM/RPO						TOTAL FUNDING RECEIVED \$ *	INTERIM BUDGET (TECHNICAL LOE) (\$)*	APPROVED WORK PLAN BUDGET (TECHNICAL LOE) (\$) *	EXPENDITURE LIMIT (EL) * (TECHNICAL LOE) (\$)	CURRENT _____	_____	_____	_____	THIS ACTION _____	_____	_____	_____	TOTAL _____	_____	_____	_____
TOTAL FUNDING RECEIVED \$ *	INTERIM BUDGET (TECHNICAL LOE) (\$)*	APPROVED WORK PLAN BUDGET (TECHNICAL LOE) (\$) *	EXPENDITURE LIMIT (EL) * (TECHNICAL LOE) (\$)																		
CURRENT _____	_____	_____	_____																		
THIS ACTION _____	_____	_____	_____																		
TOTAL _____	_____	_____	_____																		
4 WA COMPLETION DATE CURRENT: _____ REVISED: _____																					
5 EPA COMMENTS: _____ _____ _____ _____																					
6 APPROVALS CONTRACTOR SIGNATURES: SITE MANAGER /FIRM _____ DATE _____ PHONE: _____ REGIONAL MANAGER/FIRM _____ DATE _____			EPA SIGNATURES: REGIONAL PROJECT MANAGER _____ DATE _____ PHONE: _____ REGIONAL PROJECT OFFICER _____ DATE _____																		
☐ APPROVED AS SUBMITTED ☐ APPROVED WITH CHANGES ☐ NOT APPROVED _____ SIGNATURE OF CONTRACTING OFFICER _____ DATE APPROVED																					

CC EPA Project Officer
 RPO/RPM
 Contractor
 EPA Contracting Officer (when only
 expenditure limit column is used)

UPDATE 11/13/86

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ATTACH STATEMENT OF WORK
 (PER DESCRIPTION OF ACTION)

3. Budget information which presents the budgeted technical LOE and where required, dollars associated with the approval phase under which the work assignment is being executed. This section also tracks current expenditure limits as set by the Region.
4. Work Assignment (WA) Completion Date which presents the current date for completion of the work assignment and provides for documentation of subsequent revisions.
5. EPA comments section provides space for EPA personnel to make comments concerning the submission and action taken.
6. Approvals section which provides signature blocks for approval of both the Contractor and EPA personnel.

2.0 DEVELOPMENT AND ISSUANCE OF THE WORK ASSIGNMENT

2.1 Summary of WA Package and Procedures

A flow chart describing the development, issuance and acceptance of the Work Assignment is presented in Figure 2. The Work Assignment package is developed by the EPA Regional Project Manager (RPM) in conjunction with the Regional Project Officer (RPO). The Work Assignment package consists of the following elements:

- A Work Assignment Form (WAF);
- An Interim Statement of Work (SOW);
- A complete SOW for the total work assignment;
- A Work Plan Memorandum (WPM; optional); and
- A procurement request (PR).

Note 1: An action memorandum (where required by Region) and an intergovernmental review must be completed and approved prior to submittal of a WA package to the Contracting Officer when conducting an RI/FS.

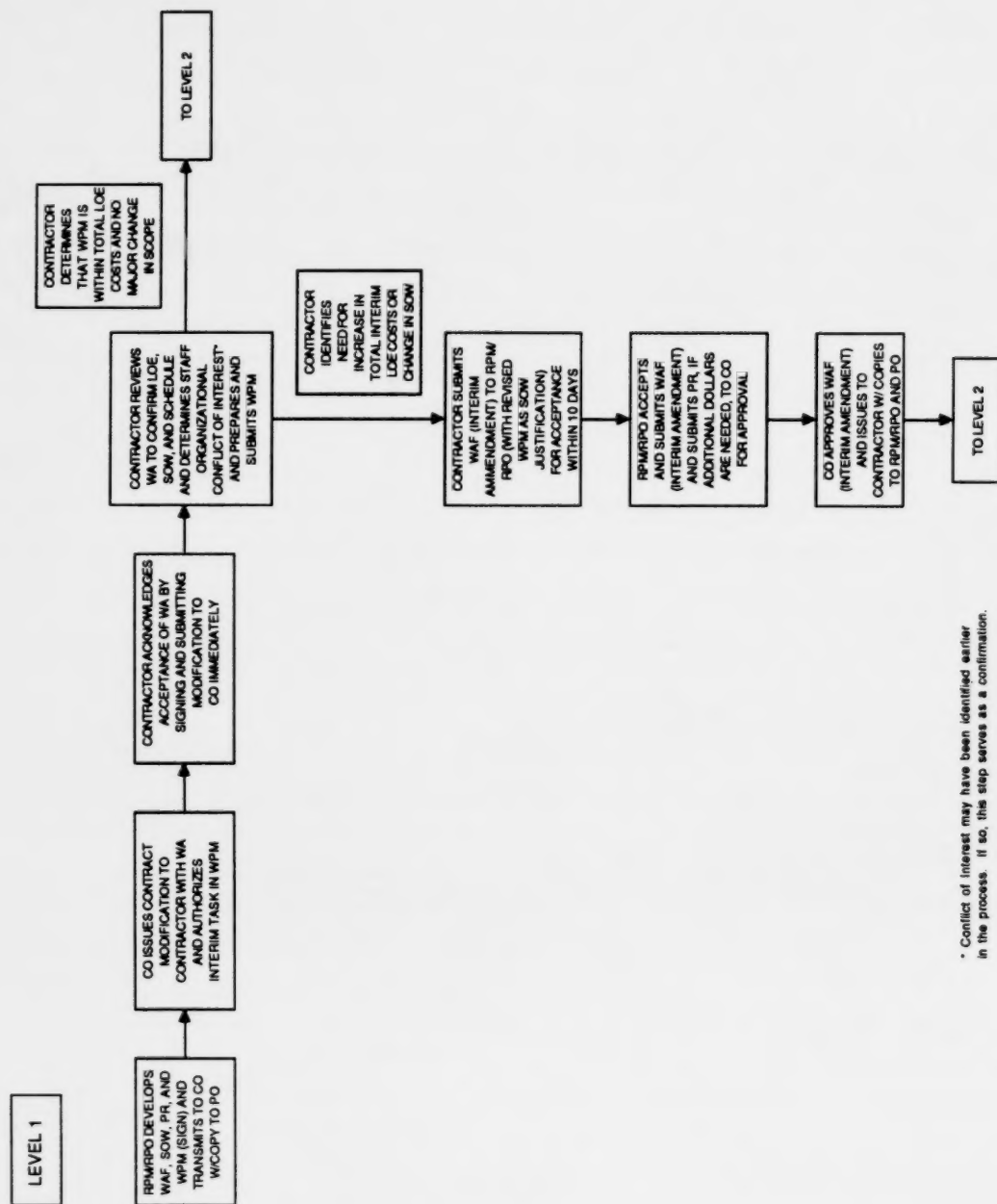
Note 2: Systems available to REM contracts allow for the preparation of a Work Plan Memorandum so that it can be included as part of the work assignment package.

2.1.1 The Work Assignment Form (WAF)

The RPM/RPO is responsible for preparing the WAF that is included in the Work Assignment package. The RPM/RPO will be responsible for completing the items on the form as shown in Figure 3. Under Item 1 the RPM/RPO will fill in the:

- Date;
- Project Name;
- EPA Contract Number;
- Activity;
- Contractor Name; and
- Revision Number which will be "Initial" for new work assignments and then sequentially numbered (i.e. 1,2,3,4..) for each subsequent action; and
- Work Assignment number Last four digits, which correspond to the site-specific accounting information for the site, allowing room for sequential numbering by the CO.

FIGURE 2
DEVELOPMENT AND ISSUANCE OF WORK ASSIGNMENT



* Conflict of Interest may have been identified earlier in the process. If so, this step serves as a confirmation.

FIGURE 3

USEPA		WORK ASSIGNMENT FORM			
1. WORK ASSIGNMENT INFORMATION					
PROJECT NAME: <u>ABC CO., TX</u>		CONTRACTOR: <u>CDM INC.</u>		WORK ASSIGNMENT NO.: <u>1-6L51</u>	
ACTIVITY: <u>RI/FS</u>		EPA CONTRACT NO.: <u>68-01-6939</u>		REVISION NO.: <u>INITIAL</u>	
DATE: <u>6/13/84</u>		CONTRACTOR CONTROL NO.: _____		MODIFICATION NO.: _____ (Contracting Officer Use Only)	
2. DESCRIPTION OF ACTION:					
☒ NEW WORK ASSIGNMENT • Interim SOW, schedule, and LOE • Complete SOW estimated budget and schedules REQUIRED APPROVAL EPA REGION/ HEADQUARTERS	☐ INTERIM AMENDMENT • Change in LOE, Scope by task • Add additional tasks or funds ☐ INCREMENTAL FUNDING EPA REGION/ HEADQUARTERS	☐ PARTIAL WORK PLAN APPROVAL ☐ FINAL WORK PLAN APPROVAL • Approval of work plan • Add funds ☐ AMENDMENT TO FINAL WORK PLAN APPROVAL • Change in LOE, scope or budget by task • Add additional task or funds (include OF 60 or SF 1411) EPA REGION/ HEADQUARTERS	☐ TECHNICAL DIRECTION MEMORANDUM • Detailed scope, budget and schedule • Revise expenditure level • Minor shift within SOW (All changes must be within overall scope, budget, and LOE approved by EPA CO) EPA REGION	☐ WORK ASSIGNMENT COMPLETION NOTIFICATION (NO ATTACHMENTS) • Contractor originates • Regional determination • When signed by CO, this constitutes a stop work order CONTRACTOR	
3. BUDGET INFORMATION					
TOTAL FUNDING RECEIVED \$ *	INTERIM BUDGET (TECHNICAL LOE) (\$)*		APPROVED WORK PLAN BUDGET (TECHNICAL LOE) (\$)*		EXPENDITURE LIMIT (EL) * (TECHNICAL LOE) (\$)
CURRENT					
THIS ACTION	1,700	100,000			1,450 85,000
TOTAL	1,700	100,000			1,450 85,000
* Option - dollar estimate may be tracked regionally in expenditure limit block. EPA estimated LOE hours of entire WA <u>8,000</u> * INCLUDES FEES					
4. WA COMPLETION DATE					
CURRENT: <u>9/30/85</u> REVISED: _____					
5. EPA COMMENTS:					
Expenditure Limit is set at \$85,000 to cover Phases I, II, III					
6. APPROVALS					
CONTRACTOR SIGNATURES:			EPA SIGNATURES:		
SITE MANAGER /FIRM _____ DATE _____			REGIONAL PROJECT MANAGER <u>Charles Berry</u> <u>2 June 84</u>		
PHONE _____			PHONE <u>(202) 382-7000</u> <u>6/13/84</u>		
REGIONAL MANAGER/FIRM _____ DATE _____			REGIONAL PROJECT OFFICER <u>Herb Burger</u> _____		
			DATE _____		
☒ APPROVED AS SUBMITTED ☐ APPROVED WITH CHANGES ☐ NOT APPROVED					
			<u>Alvin Thompson</u> SIGNATURE OF CONTRACTING OFFICER		
			<u>June 15, 1984</u> DATE APPROVED		

CC EPA Project Officer
RPO/RPM
Contractor
EPA Contracting Officer (when only expenditure limit column is used)

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ATTACH STATEMENT OF WORK
(PER DESCRIPTION OF ACTION)

The Contractor control number is to be used by the Contractor for internal controls if desired. The modification number is to be left blank and will be completed by the EPA PO. Under Item 2 the RPM/RPO will check the box marked "New Work Assignment." Under Item 3 the RPM/RPO will fill the "Interim Budget" column by showing the current LOE for the Interim WA SOW and the EPA estimated hours for the entire WA. The LOE hours from the entire assignment can be estimated based on historical data. The dollar amount of the procurement request (PR) attached should be the first funding and should be shown in the "This Action" and "Total" lines of the "Total Funding Received" column. Using an average hourly contractor rate, to be provided to the region on a strictly confidential basis by the Contracting Officer, and other incidental costs depending upon the specific tasks authorized, the RPM/RPO may also provide a dollar estimate of the interim budget and show this estimate in the Expenditure Limit block. Under Item 4, the RPM/RPO will fill in the WA completion date for the entire WA in the space marked "current" The RPM/RPO will sign on the appropriate spaces in the Approvals section (Section 6).

2.1.2 The Interim WA Statement of Work

The Interim WA Statement of Work (SOW) will be prepared by the RPM/RPO for RI/FS assignments. To aide the RPM/RPO, a computer assisted work assignment generation program has been developed. The program will serve as a management tool that Regions can use to assist in the preparation of the Work Plan Memorandum and other work assignment deliverables. The program is based on a list of core key and optional tasks as displayed in Table 1. The program is driven by data input from site hazard ranking information or other known data. The program is interactive and may also produce both scope text, schedule, and LOE based upon program experience to date. The interim statement of work for other tasks is less standard and will be developed on a case-by-case basis. Table 2 presents averages and ranges of LOE for tasks under REM contracts.

The RPM/RPO could also use the computer assisted program to determine the following information:

- The interim tasks to be conducted;
- a detailed description of the work to be conducted under each task;
- the Level of Effort (LOE) needed to perform each task (i.e., the number of technical hours that can be expended in conducting each task);
- the Interim Task schedule including milestones and deliverables; and
- a uniform cost estimate for all tasks to be conducted under the Interim SOW generated using the average Contractor hourly cost to be provided on a strictly confidential basis by the Contracting Officer.

2.1.3 The Complete Statement of Work

The EPA RPM/RPO is also responsible for developing the complete Work Assignment Statement of Work (SOW). The complete WA SOW defines the tasks that the Contractor will be expected to perform to complete the entire work assignment. This SOW should reflect EPA's estimate of all of the work that will be performed by the Contractor.

TABLE 1

INTERIM STATEMENT OF WORK TASKS

CORE TASKS	OPTIONAL TASKS
Work Plan Memorandum	Site Survey/Topographic Mapping
Initial Site Evaluation	Site Access Assistance
No Action Risk Assessment	Limited Site Sampling (RI)/Analysis
Identify/Screen Alternatives	Procurement of Subcontractor(s)
Work Plan Preparation	Community Relations Development
Sampling/Analysis Plan	Sr. Tech Advisory Committee Review
Health and Safety Plan	Engineering Evaluation/Cost Analysis-ERA
Quality Assurance Project Plan	ERA/Operable Unit Implementation
Community Relations Plan	
Site Management Plan	
Technical/Financial Management	

TABLE 2
LOE FOR TASKS UNDER REM CONTRACTS

PHASE	TASK	LOE HOURS	
		RANGE	AVERAGE
Work Assignment Initiation			
	Work Plan Memorandum	40-80	52
	Initial Site Evaluation	150-300	225
	EPA Designated Activities	*	*
	Community Relations Plan	60-120	90
	Quality Assurance Project Plan	20-40	30
	Project Operations Plan	100-500	250
	Work Plan	200-400	300
	Technical & Financial Management	60-150	105
	Quality Control	40-80	60
	Quality Assurance	20-40	28
Remedial Investigation (RI)			
	Study Area Survey	80-160	123
	Source Characterization	150-300	287
	Site Characterization	1000-2200	1600
	Feasibility Study Testing	*	*
	Data Validation	300-400	350
	Contaminant Pathway/Transport Eval.	*	*
	Public Health Evaluation/		
	Endangerment Assessment	300-500	400
	Remedial Investigation Report	400-700	550
	EPA Designated Activities	*	*
	Community Relations Support	50-120	74
	Technical & Financial Management	170-360	252
	Quality Control	60-80	70
	Quality Assurance	40-120	80
Feasibility Study (FS)			
	Develop Prelim. Remedial Alternatives	100-250	166
	Screen Remedial Alternatives	150-300	225
	Analyze Remedial Alternatives	300-700	500
	Compare Evaluation of Acceptable Alts.	200-400	300
	FS Report	350-650	500
	EPA Decision Document		
	Preparation Assistance	40-80	60
	Pre-Design Report	40-80	60
	WACR Assistance	10-20	15
	Community Relations Support	40-80	60
	Technical & Financial Management	100-250	162
	Quality Control	40-60	50
	Quality Assurance	20-60	40

* Level of Effort (LOE) value depends greatly on site-specific conditions.

2.1.4 Procurement Request

The procurement request (PR: EPA Form 1900-8) is the document used to commit funds to the work assignment by the Region. Either partial or full funding can be provided through this request. If partial funding is provided with the new work assignment, the dollar amount of the PR (indicating funding amount) should be **AT LEAST** the cost estimate generated by EPA for the interim tasks. Additional funding may be allocated as received or needed. Each EPA regional office has designated personnel to prepare PR's and obtain approvals. The EPA RPM is responsible for requesting a PR and planning sufficient funding on the SCAP for the project.

2.1.5 Work Plan Memorandum (WPM)

As discussed above, the RPO/RPM can develop a WPM and include it as part of the WA package. If it is not completed at that time, it will be generated by the Contractor as the first deliverable completed under the interim approved tasks. The generation and approval process for the WPM is diagrammed in Figure 2.

2.1.6 Issuance of the Work Assignment package

The work assignment package, when completed, is transmitted to the EPA Contracting Officer (CO) with a copy to the PO. The CO assigns, or completes, the work assignment number, signs the WAF in the appropriate section, and prepares a contract modification. The CO forwards the original to the Contractor with a copy to the RPM/RPO and the PO. The Contractor acknowledges acceptance of the WA by signing the contract modification and returning the original modification to the EPA CO.

Upon acceptance of the WA, the Contractor determines the lead firm for conducting the WA, identifies the site manager, researches and certifies that there are no conflicts of interest (if not previously determined) for both the involved firms and key personnel, and reviews the interim and complete SOW's. If the Contractor accepts the Interim SOW, as shown in Figure 2, the Contractor completes and submits a WPM to the EPA RPM/RPO.

The Contractor will, through the WPM, prepare an estimate of the hours needed for the execution of the interim tasks.

The Contractor will submit copies of the resumes of key personnel for the designated project with the WPM if not already in the EPA regional files. The submission of this section as part of the WPM is optional and will be determined by Regional preference.

If the Contractor determines that it is necessary to amend the Interim SOW by either increasing the scope of work defined in one or more of the interim tasks, by adding additional task(s) to the Interim SOW, or by substantially changing the interim LOE and costs, the Contractor submits the completed WPM with a revised WAF (Interim Amendment) to the RPM/RPO. Justification for the Interim Amendment will also need to be provided as part of the Interim Amendment.

After review and approval of the Interim Amendment, the RPM/RPO complete the appropriate sections of the WAF and submit the WAF to the EPA CO for approval. A purchase request is required if funding is not sufficient to accomplish the interim tasks. The EPA CO completes and issues the completed WAF to the RPM/RPO, the Contractor and the EPA PO. An example of a completed WAF (Interim Amendment) is shown in Figure 4.

FIGURE 4

USEPA		WORK ASSIGNMENT FORM																																						
1. WORK ASSIGNMENT INFORMATION PROJECT NAME: <u>ABC CO., TX</u> CONTRACTOR: <u>CDM INC.</u> WORK ASSIGNMENT NO.: <u>1-6L51</u> ACTIVITY: <u>RI/FS</u> EPA CONTRACT NO.: <u>68-01-6939</u> REVISION NO.: <u>1</u> DATE: <u>7/24/84</u> CONTRACTOR CONTROL NO.: <u>999-PM1-RT-CDHB</u> MODIFICATION NO.: _____ (Contracting Officer Use Only)																																								
2. DESCRIPTION OF ACTION: ☐ NEW WORK ASSIGNMENT • Interim SOW, schedule, and LOE • Complete SOW estimated budget and schedules REQUIRED APPROVAL EPA REGION/ HEADQUARTERS	☒ INTERIM AMENDMENT • Change in LOE, Scope by task • Add additional tasks or funds ☐ INCREMENTAL FUNDING EPA REGION/ HEADQUARTERS	☐ PARTIAL WORK PLAN APPROVAL ☐ FINAL WORK PLAN APPROVAL • Approval of work plan • Add funds ☐ AMENDMENT TO FINAL WORK PLAN APPROVAL • Change in LOE, scope or budget by task • Add additional task or funds (include OF 60 or SF 1411) EPA REGION/ HEADQUARTERS	☐ TECHNICAL DIRECTION MEMORANDUM • Detailed scope, budget and schedule • Revise expenditure level • Minor shift within SOW (All changes must be within overall scope, budget, and LOE approved by EPA CO) EPA REGION	☐ WORK ASSIGNMENT COMPLETION NOTIFICATION (NO ATTACHMENTS) • Contractor originates • Regional determination • When signed by CO, this constitutes a stop work order CONTRACTOR																																				
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CC EPA Project Officer
 RPO/RPM
 Contractor
 EPA Contracting Officer (when only expenditure limit column is used)

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ATTACH STATEMENT OF WORK
 (PER DESCRIPTION OF ACTION)

2.2 Responsibilities

The RPM/RPO is responsible for the following tasks during the development, issuance, and acknowledgment of the work assignment phase:

- Developing the Work Assignment package;
- Transmitting the original WA package to the EPA CO with a copy to the EPA PO;
- Acknowledging receipt of the WPM from the Contractor in writing;
- Returning copies of the acknowledgment of the WPM to the Contractor, the EPA PO and the EPA CO; and
- If the contractor submits an Interim Amendment to the WA, the RPM/RPO is responsible for reviewing and approving the amendment, completing the WAF, and transmitting the Interim Amendment with the WAF to the EPA CO.

The EPA Contracting Officer (CO) is responsible for conducting the following tasks during the development, issuance, and acceptance of a work assignment:

- Assigning a complete work assignment number on the WAF (New Work Assignment);
- Reviewing and approving the WAF (New Work Assignment), developing the contract modification, and submitting these items to the Contractor
- Receiving the WA acceptance from the Contractor and executing the contract modification;
- Reviewing and approving all Interim Amendments to the WA by signing the WAF (Interim Amendment); and
- Submitting copies of **ALL** completed WAF's to the EPA PO, the RPM/RPO and to the Contractor.

The Contractor is responsible for the following items during the issuance and acceptance of the Work Assignment package:

- Acknowledging the acceptance of the WA by signing and returning the contract modification to the EPA CO;
- Determining team/subcontractor conflicts of interest;
- Identifying the lead firm to conduct the work;
- Naming the Site Manager and other key staff;
- Completing the WPM and transmitting the complete WPM to the RPM/RPO (if it is not included in the WA package); and

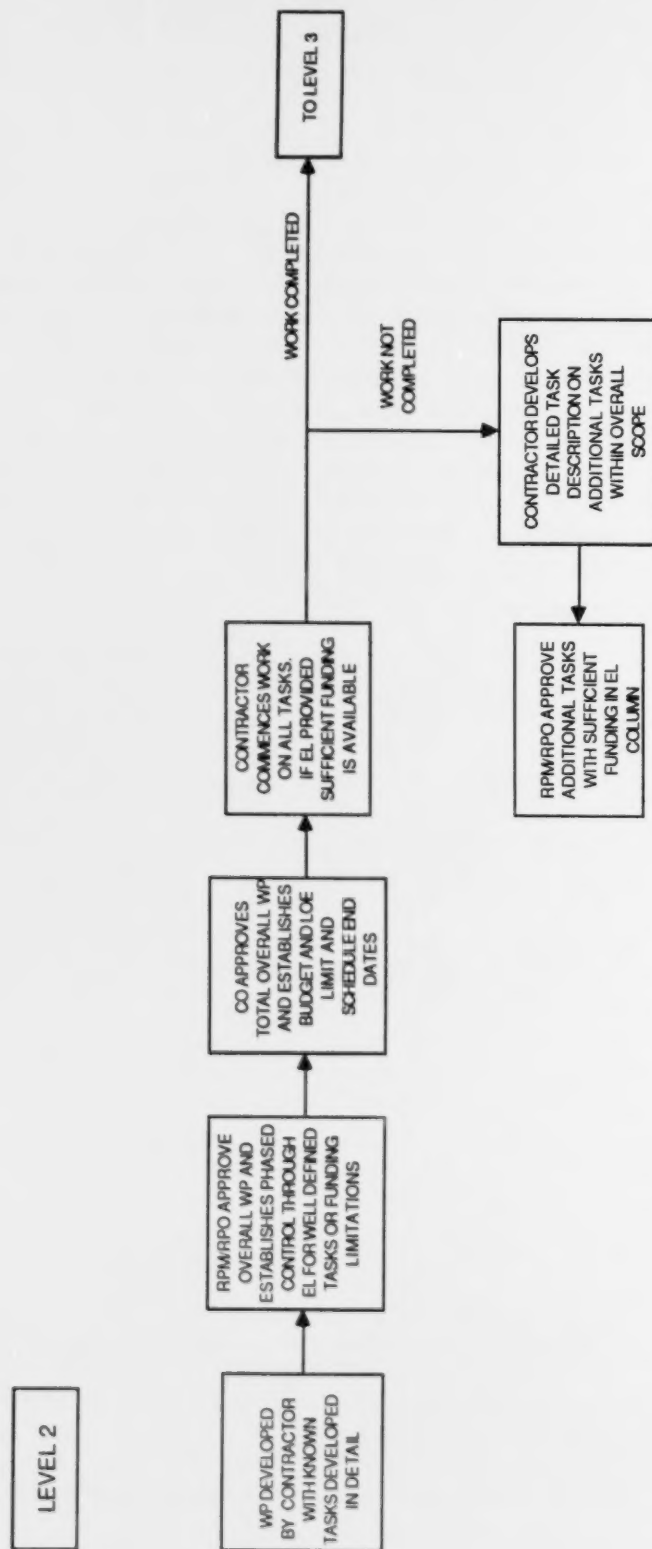
- Developing Interim Amendments (as necessary) which consist of a detailed scope, LOE, budget, schedule and a WAF. Interim amendments would be required if there are changes needed in the total interim LOE, a major change in scope to one or more of the interim tasks or the addition of any new tasks to be performed as part of the interim effort. Interim amendments may also be used to approve other RI/FS tasks prior to the receipt of the Final Work Plan Approval.

2.3 Deliverables

The deliverables for this phase of the work assignment process include the following:

- Work Assignment package (RPM/RPO);
- Contract Modification (EPA CO);
- Acknowledgment of WA upon receipt (Contractor);
- Work Plan Memorandum submitted by the Contractor within ten days of receipt of WA (Contractor);
- EPA acknowledgment upon receipt of the WPM when the Contractor revises the EPA estimated WPM LOE (RPM/RPO); and
- WAF (Interim Amendment) to WA if there are revisions to the interim LOE hours or budget (Contractor)

FIGURE 5
COMPLETION OF INTERIM WORK ASSIGNMENT TASKS AND
APPROVAL OF WORK PLAN



3.0 WORK PLAN DEVELOPMENT AND APPROVAL

3.1 Summary

As shown on the flow chart in Figure 5 (Level 2), upon acceptance of the Work Assignment the Contractor initiates the Interim SOW according to the scope, LOE, schedule, and budget defined for each task. One of the first tasks the Contractor should conduct is the initial site evaluation which will provide the Contractor with data on the site and the analysis of existing data to identify data gaps. The Contractor will also begin to identify (specific to the Work Assignment) preliminary remedial alternatives that can accomplish remediation of the site. These alternatives will be developed by the Contractor as part of an RI/FS work plan and they are imperative to the development process since they are the driving force for conducting the Remedial Investigation and the Feasibility Study (RI/FS). They will help determine the objectives that are to be accomplished during the project, define the data gaps that will need to be filled in order to be able to conduct the FS and determine the quality of data required.

3.2 Work Plan Development

One of the major tasks under the core list of interim tasks is the Work Plan Development task. The work plan describes the activities and tasks the Contractor will execute to accomplish the complete SOW under the WA. If a phased RI/FS approach is to be used, the work plan should describe the first phase tasks in detail and proposed future tasks in a general manner. An estimate for LOE, costs and time required will have to be prepared for both the first phase tasks and the future tasks. The budget and schedule information for the first phase tasks should be straight forward and readily accomplished. The budget and schedule information for the future tasks will normally not be able to be prepared with the same amount of certainty or detail however, enough information must be provided to justify the LOE and budget specified in the work plan. While it is important that the future tasks be general to provide flexibility, enough information must be provided to allow the RPM/RPO and the Contracting Officer a solid basis for approving the work plan.

The Contractor must also complete an Optional Form 60 (OF-60) or a Standard Form 1411 (SF-1411) as part of the work plan. The Contractor must also complete a WAF (Final Work Plan Approval) as shown in Figure 6A. The Contractor should complete Item 1 of the WAF and should mark the "Final Work Plan Approval box" under Item 2. The Contractor can also fill in the Approved Work Plan Budget in the "This Action" and "Total" columns in Section 3 reflecting the technical LOE hours and total cost budget supported in the final work plan text and the SF-1411 or OF-60. If the final approved work plan revises the completion date for the entire work assignment then the Contractor should reflect this new date in the revised line of section 4 - "WA Completion Date"

The Contractor's Regional Manager and Site Manager must sign the appropriate spaces under Item 6 prior to transmittal of the form to the RPM/RPO. When the RPM/RPO approve the work plan they must verify and complete section 3 of the WAF (budget information) and provide appropriate comments in section 5. If it is determined that the Expenditure Limit column is to be used, the RPM/RPO will complete the EL portions of sections 2 and 3, noting the limit in the comment section. Additional information regarding Expenditure Limit usage is provided in section 3.3.

FIGURE 6A

USEPA		WORK ASSIGNMENT FORM			
1 WORK ASSIGNMENT INFORMATION					
PROJECT NAME <u>ABC CO., TX</u>		CONTRACTOR: <u>CDM INC.</u>		WORK ASSIGNMENT NO.: <u>1-6L51</u>	
ACTIVITY <u>RI/FS</u>		EPA CONTRACT NO.: <u>68-01-6939</u>		REVISION NO.: <u>2</u>	
DATE: <u>9/25/84</u>		CONTRACTOR CONTROL NO.: <u>999-PM1-RT-CDHB</u>		MODIFICATION NO.: <u>N/A</u>	
(Contracting Officer Use Only)					
2 DESCRIPTION OF ACTION: ☐ NEW WORK ASSIGNMENT • Interim SOW, schedule, and LOE • Complete SOW estimated budget and schedules REQUIRED APPROVAL EPA REGION/ HEADQUARTERS	☐ INTERIM AMENDMENT • Change in LOE, Scope by task • Add additional tasks or funds ☐ INCREMENTAL FUNDING EPA REGION/ HEADQUARTERS	☐ PARTIAL WORK PLAN APPROVAL ☒ FINAL WORK PLAN APPROVAL • Approval of work plan • Add funds ☐ AMENDMENT TO FINAL WORK PLAN APPROVAL • Change in LOE, scope or budget by task • Add additional task or funds (include OF 60 or SF 1411) EPA REGION/ HEADQUARTERS	TECHNICAL DIRECTION ☐ MEMORANDUM • Detailed scope, budget and schedule • Revise expenditure level • Minor shift within SOW (All changes must be within overall scope, budget, and LOE approved by EPA CO) EPA REGION	☐ WORK ASSIGNMENT COMPLETION NOTIFICATION (NO ATTACHMENTS) • Contractor originates • Regional determination • When signed by CO, this constitutes a stop work order CONTRACTOR	
3 BUDGET INFORMATION					
TOTAL FUNDING RECEIVED \$ * CURRENT _____ THIS ACTION _____ TOTAL _____ * Option - dollar estimate may be tracked regionally in expenditure limit block. EPA estimated LOE hours of entire WA <u>7,050</u>	INTERIM BUDGET (TECHNICAL LOE) (\$) * _____ _____ _____ * INCLUDES FEES	APPROVED WORK PLAN BUDGET (TECHNICAL LOE) (\$) * 7,050 550,000 _____ 7,050 550,000 _____ * INCLUDES FEES	EXPENDITURE LIMIT (EL) * (TECHNICAL LOE) (\$) * _____ _____ _____ * ESTABLISHED BY RPM/RPO		
4 WA COMPLETION DATE					
CURRENT <u>9/30/85</u>		REVISED _____			
5 EPA COMMENTS:					
Example of portion completed by the Contractor _____ _____ _____ _____					
6 APPROVALS					
CONTRACTOR SIGNATURES <u><i>Robert Krachit</i></u> SITE MANAGER FIRM <u>Robert Krachit</u> REGIONAL MANAGER/FIRM DATE <u>9/25/84</u> PHONE <u>(703) 641-0800</u>			EPA SIGNATURES: REGIONAL PROJECT MANAGER _____ DATE _____ PHONE _____ REGIONAL PROJECT OFFICER _____ DATE _____		
☐ APPROVED AS SUBMITTED ☐ APPROVED WITH CHANGES ☐ NOT APPROVED					
SIGNATURE OF CONTRACTING OFFICER _____			DATE APPROVED _____		

CC EPA Project Officer
 RPO/RPM
 Contractor
 EPA Contracting Officer (when only expenditure limit column is used)

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ATTACH STATEMENT OF WORK
 (PER DESCRIPTION OF ACTION)

The RPM/RPO will then submit the work plan, WAF, OF-60 or SF-1411, and PR's as needed to the EPA CO for approval. The package is reviewed by the CO, who then provides approval by signing on the bottom of the form with any appropriate comments noted in section 5. If the EPA CO does not approve the work plan, the not approved box will be checked and the EPA CO will initial and date the WAF. The EPA CO will send a copy of the WAF containing the approval (or disapproval) of the work plan and funding authorization to the RPM/RPO, the Contractor, and the authorization of funding to the RPM/RPO, the Contractor and to the EPA PO.

A completed WAF (Final Work Plan Approval) with full funding is shown in Figure 6B and with partial funding in Figure 6C. Figures 6B and 6C also reflect Expenditure Limits being exercised by the Region.

If the RPM/RPO does not approve the work plan, the Contractor will meet with the RPM/RPO to resolve any conflicts or answer any questions. The Contractor will then modify the work plan incorporating the changes agreed upon and will re-submit the work plan to the RPM/RPO for approval. If approved, the approval process will follow the procedures described above.

3.3 Interim Amendments

There are times when it becomes necessary to revise a work assignment prior to work plan approval. This revision requires the preparation and submittal of an Interim Amendment WAF. An Interim Amendment will be required when there are changes to the SOW, LOE dollars, entire project schedule, or if it is necessary to add additional Contractor tasks. The Contractor will initiate the Interim Amendment request, attach documentation identifying changes in SOW, budget, and schedule, and forward for approval to the EPA RPM/RPO. Upon approval, the amendment request will be transmitted to the EPA CO for final approval. The EPA CO will issue a contract modification when an increase in funding is approved, otherwise changes will be duly noted on the final approved WAF.

3.4 Responsibilities

The duties and responsibilities for the Contractor, EPA RPM/RPO and CO are described below:

The Contractor is responsible for the following tasks:

- Conducting the interim tasks;
- Preparing and submitting to EPA the work plan, including SOW, budget and schedules presented by task;
- Meeting with the RPM/RPO to resolve any outstanding issues or comments by the RPM/RPO on the work plan;
- Revising the Work Plan per EPA's comments and re-submitting the work plan to the RPM/RPO with the WAF and SF-1411 or OF-60;
- Executing the approved scope of work upon written approval by the EPA CO;

FIGURE 6B

USEPA		WORK ASSIGNMENT FORM																																									
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4 WA COMPLETION DATE CURRENT: <u>9/30/85</u> REVISED: <u>10/30/85</u>																																											
5 EPA COMMENTS: <u>Example of full funding - No additional controls needed.</u> <u>Dollars and hours previously approved under interim budget replaced</u> <u>with those indicated under work plan budget column.</u>																																											
APPROVALS CONTRACTOR SIGNATURE: <u>[Signature]</u> DATE: <u>Sept 25, 1984</u> SITE MANAGER/FIRM: <u>Robert Krachit</u> PHONE: <u>(703) 610-0800</u> REGIONAL MANAGER/FIRM: _____ DATE: <u>9/25/84</u>			EPA SIGNATURES: REGIONAL PROJECT MANAGER: <u>[Signature]</u> DATE: <u>10/10/84</u> REGIONAL PROJECT OFFICER: <u>[Signature]</u> PHONE: <u>(802) 382-1000</u> DATE: <u>10/11/84</u>																																								
☒ APPROVED AS SUBMITTED ☐ APPROVED WITH CHANGES ☐ NOT APPROVED <u>[Signature]</u> <u>June 17, 1984</u> SIGNATURE OF CONTRACTING OFFICER DATE APPROVED																																											

CC EPA Project Officer
 RPO/RPM
 Contractor
 EPA Contracting Officer (when only expenditure limit column is used)

UPDATE 11/13/86

B-25

ATTACH STATEMENT OF WORK
 (PER DESCRIPTION OF ACTION)

FIGURE 6C

USEPA		WORK ASSIGNMENT FORM																																															
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4 WA COMPLETION DATE CURRENT: <u>9/30/85</u> REVISED: <u>10/30/85</u>																																																	
5 EPA COMMENTS: <u>Example of partial funding - Additional control of expenditures has been set in the Expenditure Limit column.</u> <u>Prior approval required before Tasks 2a(2) and 2b(2) are initiated.</u>																																																	
6 APPROVALS <table style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> CONTRACTOR SIGNATURES <u>[Signature]</u> <u>9/23/84</u> SITE MANAGER/FIRM <u>Robert Krachit</u> <u>9/25/84</u> REGIONAL MANAGER/FIRM </td> <td style="width: 50%; vertical-align: top;"> EPA SIGNATURES <u>[Signature]</u> <u>9/30/85</u> REGIONAL PROJECT MANAGER <u>[Signature]</u> <u>10/1/85</u> REGIONAL PROJECT OFFICER </td> </tr> </table>						CONTRACTOR SIGNATURES <u>[Signature]</u> <u>9/23/84</u> SITE MANAGER/FIRM <u>Robert Krachit</u> <u>9/25/84</u> REGIONAL MANAGER/FIRM	EPA SIGNATURES <u>[Signature]</u> <u>9/30/85</u> REGIONAL PROJECT MANAGER <u>[Signature]</u> <u>10/1/85</u> REGIONAL PROJECT OFFICER																																										
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☐ APPROVED AS SUBMITTED ☒ APPROVED WITH CHANGES ☐ NOT APPROVED <u>[Signature]</u> SIGNATURE OF CONTRACTING OFFICER <u>Oct 5, 1985</u> DATE APPROVED																																																	

CC EPA Project Officer
 RPO/RPM
 Contractor
 EPA Contracting Officer (when only expenditure limit column is used)

UPDATE 11.13.86

B-26

ATTACH STATEMENT OF WORK
(PER DESCRIPTION OF ACTION)

- Submitting TDM forms where execution of task work so warrants; and
- Tracking budgets and schedules to insure timely completion of the assignment on or below budget.

The RPM/RPO are responsible for:

- coordinating the review of the work plan with peer reviewers;
- submitting comments on the work plan to the Contractor;
- meeting with the Contractor to resolve any comments or outstanding issues;
- approving the work plan by completing the appropriate portions of the WAF;
- setting an Expenditure Limit upon approval of the work plan by the EPA CO (as specified above);
- submitting the approved work plan including the WAF, OF-60 or SF-1411, and the purchase request (as required) to the EPA CO for approval;
- transmitting the completed WAF, when utilizing the phased approach with an Expenditure Limit, to the Contractor, EPA PO, and the EPA CO; and
- tracking schedules and budgets to insure timely completion of the assignment on or below budget.

The EPA Contracting Officer is responsible for conducting the following tasks:

- Approving the work plan and authorizing funding by signing the WAF;
- obligating funds and establishing the expenditure ceiling; and
- transmitting the completed WAF to the RPM/RPO, Contractor and the EPA PO

4.0 IMPLEMENTING THE APPROVED WORK PLAN

The flow chart shown in Figure 7 (Level 3) describes the implementation of the Work Plan by the Contractor. Upon completion of the Work Plan, or the first phase of the Work Plan, the Contractor reviews and interprets the data that has been developed. This review will be used to determine if additional data will be needed in order to complete the Work Assignment and/or to provide the information that will be necessary to support a remedial alternative. Part of this review will consist of performing a limited FS analysis (i.e., screening of the remedial alternatives using the data generated as part of the RI).

During the execution of the approved tasks in the work plan, changes sometimes occur or site conditions are encountered that are different than originally projected. Because these changes in the execution of an approved work plan may affect the approved LOE or dollar values, the work plan and the work plan estimates may have to be revised. It should be noted that work plans can be modified at any time during the execution of the statement of work.

The following sections present guidelines for cost tracking and utilization of the expenditure limit of the WAF as well as two ways of modifying an approved work plan. The first is the Technical Direction Memorandum (TDM), which is to be used when there are modifications in the execution of a task or work phase based upon new site conditions or data. The second source of work assignment modification is the amendment to the final work plan approval, when a significant funding increase is required, new tasks or phases are added, or a major change occurs during the execution of an approved task. Table 3 provides guidance when either a TDM or an amendment is appropriate.

4.1 Cost Tracking

It is critical that work assignment budgets, LOE needs, and schedules are reviewed by the Contractor Site Manager routinely to insure that no unnecessary delays are encountered due to the lack of funds or LOE. As explained in more detail in Section 4.2.2 of this package, when the additional funding needed to effectively continue work on the assignment is in excess of 10% of the approved work plan budget, it becomes necessary to process an amendment request. Site managers should track schedule, LOE, and budgets closely to be able to identify early on when amendments will be needed.

An amendment request to a final work plan approval can be submitted at any time during the course of an assignment when a major change has occurred or when additional funding or LOE are required. However, at a minimum, each assignment should be reviewed in detail when expended costs are at the 75% of the total funding level, or the approved work plan dollar level, whichever is less. At this point, the Contractor is required to notify the RPM in writing if additional funds or LOE are required and submit a work assignment amendment if this is the case. Periodic reviews by the Contractor Site Manager will result in the flagging of potential funding needs. This early identification and subsequent amendment processing will eliminate any interference with overall project schedules.

**FIGURE 7
IMPLEMENTATION OF APPROVED CONTRACTOR WORK PLAN**

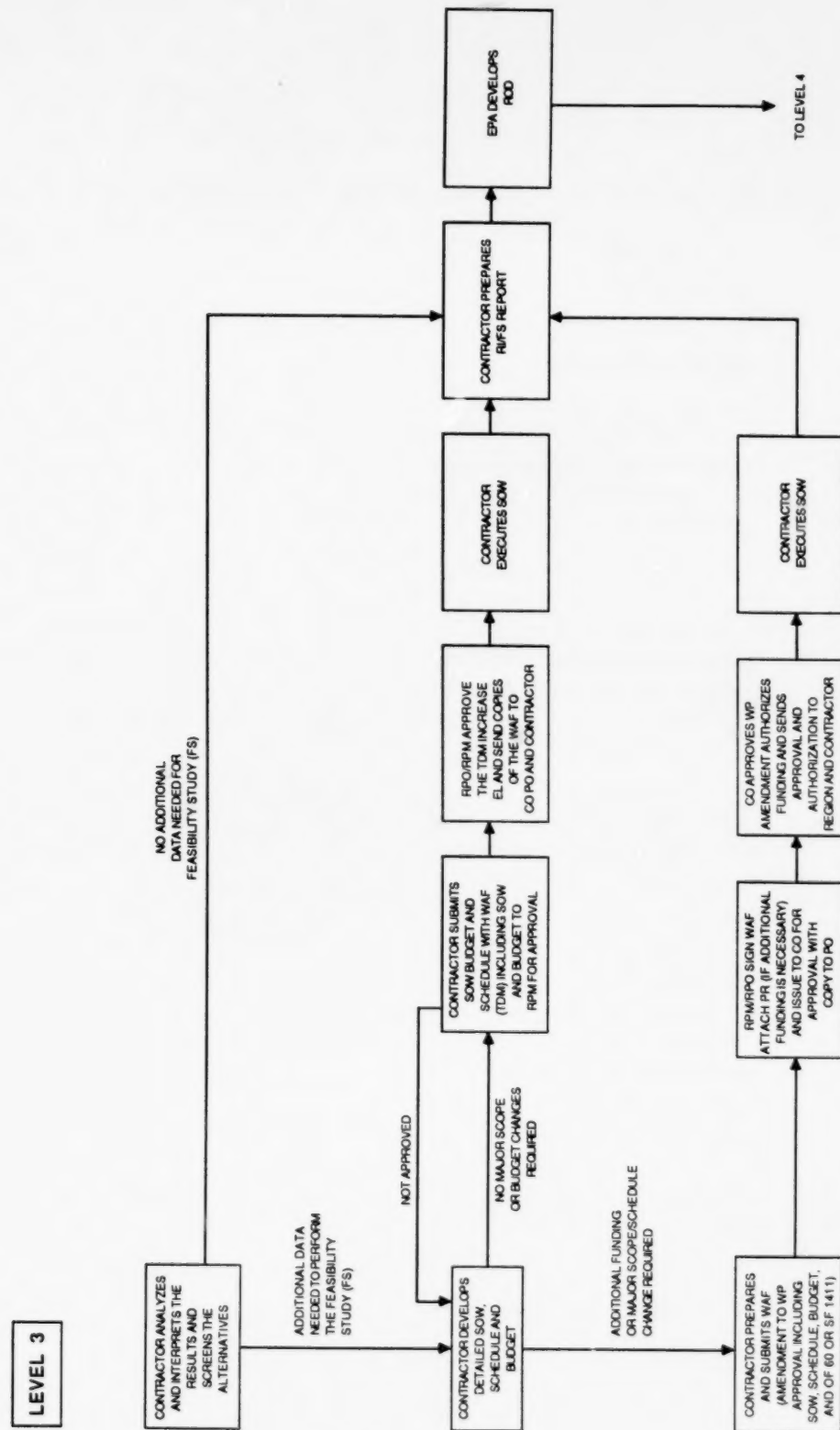


TABLE 3
ACTION/EXECUTION SUMMARY

ACTION	EXECUTION
Add new task or phase	W.A. Amendment
Modification to task which affects overall approved LOE, dollars, and schedule end date	W.A. Amendment
Approve phase (in phased RI/FS) that was part of entire work plan approval and increase Expenditure Limit (EL)	TDM
Modify execution of task or phase within approved LOE dollar limits of assignment. prior to actual execution	TDM
Document changes made to execution of task or phase which did not affect overall approved LOE or dollar limits	TDM

4.2 Modifying Approved Work Plan

4.2.1 Utilizing the Expenditure Limit (EL) Option for Approved Work Plans

Upon receipt of the WAF, the RPM/RPO may choose to set a Regional Expenditure Limit (EL). This limit provides a mechanism for the region to manage the phasing and execution of the Approved Final Work Plan.

Expenditure Limits are a regionally controlled mechanism that can be used to:

- limit execution of work to distinct phases, as in phased RI/FS studies; or
- provide control over the execution of individual tasks within an approved work plan.

Since Expenditure Limits are assigned at a regional level, they can only be used to control the execution of tasks or phases that have been approved by the EPA CO.

There are at least two different ways to write work plans using the expenditure limit column. They are discussed in the following two examples:

EXAMPLE 1 - Is best utilized when control is desired and mobile labs are used and/or activity will be ongoing. Tasks and descriptions are for example purposes only.

Work Plan

1. Initial Tasks	\$106,000
2. Field Activities	
A1 Well Drilling-Known Amount & Location	\$ 94,000
A2 Well Drilling-Undetermined Amount/Location	\$ 50,000
B1 Soil Sampling-Known Amount & Location	\$ 50,000
B2 Soil Sampling-Undetermined Amount/Location	\$ 50,000
C1 Sediment Sampling	\$ 50,000
D1 Air Sampling	\$ 30,000
3. Feasibility Study	\$ 30,000
A1 Screening	\$ 20,000
B1 Evaluation	\$ 50,000
C1 Pilot Plants	\$ 50,000

In this case, the RPM/PO and Contractor have decided that the amount of well drilling and soil sampling may vary depending on the conditions found. The RPM/RPO may approve all tasks as shown or may approve all tasks overall but control the initiation of any task by using the EL column and writing appropriate comments in the **COMMENT** section of the TDM. For example, an applicable EPA comment in this case would be:

Regional Control - Prior approval required before implementing tasks 2-A2, 2-B2, and 3-C1.

The dollar amount in the EL column should reflect the dollar amount of clearly defined tasks (\$400,000), however, the final WP approval column should reflect the total of all tasks (\$650,000)

If additional wells are required as field work progresses, the Contractor would notify the RPM/RPO through a TDM, which would outline the number of additional wells at what cost. The RPM/RPO would approve the WAF, providing the total project cost and LOE are within the entire work plan, and the work would continue. In some cases, field decisions will have to be made without the benefit of full written approved documentation. For example, if field conditions require additional well drilling, this sometimes has to be done immediately to reduce costs due to remobilization, etc. In this situation, logistics or time do not allow written documentation prior to approval, therefore verbal approval may be given by the RPM/RPO. It is imperative that follow-up documentation in the form of a completed WAF be submitted as soon as possible. If more money is required in task 2-A2 and less money is required in task 2-B2, approval may still be given on the regional level providing the total dollars and LOE do not exceed the entire work plan budget.

EXAMPLE 2 - Is best utilized when discrete sampling trips are required. The second trip is scoped out after the first is completed. Tasks and descriptions are for example purposes only:

Task 1	Initial Activities	\$106,000
Task 2	Phase 1-Fieldwork/Alternative Screening	\$294,000
Task 3	Phase 2-Fieldwork/Alternative Evaluation	\$ 90,000
Task 4	Phase 3-Fieldwork/Alternative Selection	\$ 60,000

In this case the EPA CO would have approved all tasks but the RPM/RPO may elect to regionally limit the Contractor to working on Tasks 1 and 2. When information is gathered from Task 2, a TDM better defining the proposed activities should be submitted to the RPM/RPO for Task 3. The RPM/RPO would approve Task 3 and the Contractor would then execute the task. The CO signature is not required for regionally controlled tasks unless activities being added are not within the Total LOE or Total budget, or within the approved scope of work.

Analysis of the phased work accomplished to date could result in significant revisions to the future work tasks. It is important to note that each successive WAF for a WA supersedes the previous WAF and therefore **ALL** required information must be provided. If a region establishes expenditure limits to manage the phased execution of a WA and neglects to complete the expenditure limit column in a subsequent submittal, the regional expenditure control will be voided. If this occurs, the control will either be the approved final work plan or total funding received.

4.2.2 Technical Direction Memorandum

The Technical Direction Memorandum (TDM) represents the administrative procedures used to document and authorize the execution of 1) previously generally defined tasks; 2) phases that were included in the work plan approval but not authorized for execution (as in phased RI/FS studies); and 3) modifications to the planned execution of tasks or phases that do not have significant effect on the approved LOE or dollars. The TDM is important in that approval of changes

documented in the TDM can be approved by the Region as long as those changes do not require revisions to approved LOE, dollar, or schedule end dates. The task modifications, documented with a TDM, may be a result of new site conditions, new data, or the authorization of the execution of more clearly defined tasks. In those cases, the TDM can be used by the Contractor to provide additional details on generally defined tasks. TDM's cannot be used to document major changes in scope which would clearly exceed the overall approved budget or LOE levels for the assignment. Changes of this nature must be documented and approved through a WA Amendment (see 4.2.3 below).

As seen in Figure 7, upon completion of the detailed scope, schedule and budget, the Contractor will determine if the new scope and budget are within the initial scope and budget provided in the work plan. Changes in the execution of approved SOW tasks which fall within the total LOE and budget are delegated to the Regional RPO for approval action. If it is determined that the task or phase is within the scope, budget, and schedule of the Work Plan, the Contractor will prepare a WAF and attach this to the detailed scope, schedule, and budget. The Contractor will be responsible for checking the WAF in the Technical Direction Memorandum (TDM) box and submitting this information to the RPM/RPO for approval. Figure 8 presents the two page TDM form. This form has been developed to aid the Contractor in the preparation and documentation of the changes being requested. This form will insure that the required data will be submitted to the RPM/RPO in a format designed to expedite the regional approval process. The enclosed TDM form represents one standard format for executing modifications to planned field or task work. However, other types of documentation (in the form of letters or memorandums to the RPO) could be used by the Region to modify the execution of work or the establishment of subsequent regional expenditure limits. These expenditure limits are explained in more detail in previous section 4.2.1.

Figure 9 presents a sample completed TDM form. Section 1.0 contains the general work assignment information and serves as a tracking device for the overall site activity. Section 2.0 presents the objective and the approach of the modifications. Both the objective and the approach should be as brief as possible, while still detailing the modifications being carried out. Section 3.0 (page 2 of the form) explains subcontractor requirements, if any, and Section 4.0 presents schedule and deliverable changes. Section 5.0 contains the budget information which provides a task breakdown of costs and hours with the totals, including any variance. Section 6.0 summarizes the impact of the current proposed TDM action on the overall assignment LOE and cost. As noted on the bottom of page 2 of the TDM form, if there is a significant positive variance, an amendment request may have to be processed by the site manager based on discussions with the RPO. If there are only small positive variances (< 10% of approved work plan budget) projected which may be absorbed throughout the course of the project, an amendment request should not be processed at this time. Section 7.0 of the TDM is for final approval signatures by the Contractor and Regional personnel.

The RPM/RPO will be responsible for approving the TDM by completing the appropriate sections of the WAF and returning a copy of the completed WAF to the Contractor, the EPA PO, and the EPA CO. A copy of a completed WAF for a TDM is shown in Figure 10. In this example, while the

TECHNICAL DIRECTION MEMORANDUM

DATE: _____

PROJECT NAME: _____

EPA CONTRACT NO.: _____

WORK ASSIGNMENT NO.: _____

CONTRACTOR: _____

SITE MANAGER/FIRM: _____

REVISION NO.:

CONTRACTOR CONTROL NO.:

OBJECTIVE:

APPROACH: (Present description of Task and Sub-task basis)

TECHNICAL DIRECTION MEMORANDUM

USEPA		TECHNICAL DIRECTION MEMORANDUM	
1.0 WORK ASSIGNMENT INFORMATION			
DATE: <u>10/15/84</u>	PROJECT NAME: <u>ABC CO., TX</u>		
EPA CONTRACT NO.: <u>68-01-6939</u>	WORK ASSIGNMENT NO.: <u>1-6L51</u>		
CONTRACTOR: <u>CDM INC.</u>	SITE MANAGER/FIRM: <u>JOHNNY SAMPLE - CDM</u>		
REVISION NO.: <u>3</u>	CONTRACTOR CONTROL NO.: <u>999-PM1-RT-CDHG</u>		
2.0 TECHNICAL DIRECTION SCOPE OF WORK			
OBJECTIVE: <u>To conduct field activities at the site. Field activities that are</u>			
<u>being conducted during Phase I include first round well drilling,</u>			
<u>soil sampling, sediment sampling, and air sampling.</u>			
APPROACH: (Present description of Task and Sub-task basis)			
Tasks affected by this TDM are as follows:			
Task 2A-1 Well Drilling - Phase I			
Task 2B-2 Soil Sampling - Phase I			
Task 2C-1 Sediment Sampling - Phase I			
Minor changes in the scope of the above listed sub-tasks occurred			
during the conduct of the work assignment. The detail of the scope			
changes are attached. (ATTACHMENT NOT INCLUDED IN THIS GUIDANCE			
DOCUMENT). While the individual task budgets have changed, there is			
no impact on the overall budget or LOE ceilings for this assignment.			

USEPA

TECHNICAL DIRECTION MEMORANDUM

3.0 SUBCONTRACTOR REQUIREMENTS

(Description of Services)

Not Applicable

4.0 SCHEDULE AND DELIVERABLE:

TASK NO.	START DATE:	COMPLETION DATE:	DELIVERABLE:
A-1	3/8/85	6/25/85	
B-1	4/16/85	5/2/85	
C-1	4/16/85	5/12/85	

(TASK NO.'S PER TECHNICAL DIRECTION SCOPE OF WORK)

5.0 BUDGET INFORMATION:

TASK NO.	PROFESSIONAL		SUPPORT		EQUIP	TRAVEL	ODC'S	SUB POOL	FEES	TASK TOTALS
	HOURS	COST	HOURS	COST						
A-1	1,170	27,000	130	3,000	1,000	500	1,200	47,300	5,635	85,635
B-1	608	13,500	67	1,500	1,500	700	1,700	22,600	3,020	44,520
C-1	608	13,500	67	1,500	1,500	500	2,000	21,000	2,950	42,950
TOTAL	2,386	54,000	264	6,000	4,000	1,700	4,900	90,900	11,605	173,015
COMMITTED TO DATE	3,100	100,000	310	25,000	5,000	3,000	7,000	225,000	25,250	390,250
APPROVED BUDGET	2,500	60,000	280	7,000	4,500	2,100	5,200	104,000	13,080	195,880
VARIANCE	(114)	(6,000)	(16)	(1,000)	(500)	(400)	(300)	(13,100)	(1,475)	(22,775)

6.0 TOTAL ORIGINAL
WA BUDGET:

\$ 550,000

TOTAL REVISED WA BUDGET:

\$ 550,000

*VARIANCE:

\$

LOE 7,050

LOE 7,050

LOE

7.0 APPROVALS:

CONTRACTOR SIGNATURES

SITE MANAGER/FIRM

DATE

REMEDIAL PROJECT MANAGER

DATE

REGIONAL MANAGER/FIRM

DATE

REGIONAL PROJECT OFFICER

DATE

If there is a significant positive variance, an amendment request may have to be processed by the site manager after discussions with the RPO.

FIGURE 10

USEPA		WORK ASSIGNMENT FORM																																			
1 WORK ASSIGNMENT INFORMATION PROJECT NAME: <u>ABC CO., TX</u> CONTRACTOR: <u>CDM INC.</u> WORK ASSIGNMENT NO.: <u>1-6L51</u> ACTIVITY: <u>RI/FS</u> EPA CONTRACT NO.: <u>68-01-6939</u> REVISION NO.: <u>4</u> DATE: <u>10/30/84</u> CONTRACTOR CONTROL NO.: <u>999-PM1-RT-CDHB</u> MODIFICATION NO.: <u>N/A</u> (Contracting Officer Use Only)																																					
2 DESCRIPTION OF ACTION: ☐ NEW WORK ASSIGNMENT • Interim SOW, schedule, and LOE • Complete SOW estimated budget and schedules REQUIRED APPROVAL EPA REGION/ HEADQUARTERS	☐ INTERIM AMENDMENT • Change in LOE, Scope by task • Add additional tasks or funds ☐ INCREMENTAL FUNDING EPA REGION/ HEADQUARTERS	☐ PARTIAL WORK PLAN APPROVAL ☐ FINAL WORK PLAN APPROVAL • Approval of work plan • Add funds ☐ AMENDMENT TO FINAL WORK PLAN APPROVAL • Change in LOE, scope or budget by task • Add additional task or funds (include OF 60 or SF 1411) EPA REGION/ HEADQUARTERS	TECHNICAL DIRECTION MEMORANDUM ☒ Detailed scope, budget and schedule ☐ Revise expenditure level ☐ Minor shift within SOW (All changes must be within overall scope, budget, and LOE approved by EPA CO) EPA REGION	☐ WORK ASSIGNMENT COMPLETION NOTIFICATION (NO ATTACHMENTS) • Contractor originates • Regional determination • When signed by CO, this constitutes a stop work order CONTRACTOR																																	
3 BUDGET INFORMATION <table border="1" style="width: 100%; border-collapse: collapse; font-size: small;"> <thead> <tr> <th></th> <th>TOTAL FUNDING RECEIVED \$ *</th> <th colspan="2">INTERIM BUDGET (TECHNICAL LOE) (\$)*</th> <th colspan="2">APPROVED WORK PLAN BUDGET (TECHNICAL LOE) (\$)*</th> <th colspan="2">EXPENDITURE LIMIT (EL) *</th> </tr> </thead> <tbody> <tr> <td>CURRENT</td> <td style="text-align: center;">600,000</td> <td></td> <td></td> <td style="text-align: center;">7,050</td> <td style="text-align: center;">550,000</td> <td style="text-align: center;">6,730</td> <td style="text-align: center;">400,000</td> </tr> <tr> <td>THIS ACTION</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">50,000</td> </tr> <tr> <td>TOTAL</td> <td style="text-align: center;">600,000</td> <td></td> <td></td> <td style="text-align: center;">7,050</td> <td style="text-align: center;">550,000</td> <td style="text-align: center;">6,730</td> <td style="text-align: center;">450,000</td> </tr> </tbody> </table> * Option - dollar estimate may be tracked regionally in expenditure limit block EPA estimated LOE hours of entire WA _____ * INCLUDES FEES * INCLUDES FEES * ESTABLISHED BY RPA/RPO							TOTAL FUNDING RECEIVED \$ *	INTERIM BUDGET (TECHNICAL LOE) (\$)*		APPROVED WORK PLAN BUDGET (TECHNICAL LOE) (\$)*		EXPENDITURE LIMIT (EL) *		CURRENT	600,000			7,050	550,000	6,730	400,000	THIS ACTION							50,000	TOTAL	600,000			7,050	550,000	6,730	450,000
	TOTAL FUNDING RECEIVED \$ *	INTERIM BUDGET (TECHNICAL LOE) (\$)*		APPROVED WORK PLAN BUDGET (TECHNICAL LOE) (\$)*		EXPENDITURE LIMIT (EL) *																															
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☐ APPROVED AS SUBMITTED ☐ APPROVED WITH CHANGES ☐ NOT APPROVED SIGNATURE OF CONTRACTING OFFICER DATE APPROVED																																					

CC EPA Project Officer
 RPO/RPM
 Contractor
 EPA Contracting Officer (when only expenditure limit column is used)

UPDATE 11/13/86

B-38

ATTACH STATEMENT OF WORK
 (PER DESCRIPTION OF ACTION)

current work plan approval amount is 7.050 hours and \$550,000, the regional expenditure limit has been set at 6.730 hours and \$450,000.

4.2.3 Amendment to Final Work Plan Approval

If it is determined that additional funds are needed beyond the approved work plan, a major scope change is required, or an overall WA completion date change is necessary, the Contractor will be responsible for requesting an amendment to the work plan. To accomplish this, the Contractor will submit the detailed scope, budget, and schedule for the changes to the assignment to the RPM/RPO with an appropriately completed WAF. The Contractor will check the box labeled Amendment to Final Work Plan Approval on the WAF as part of this submittal. The Contractor will also be responsible for developing and submitting an OF-60 or SF-1411 as part of this submission. It is the RPM/RPO's responsibility to approve the Amendment to the Final Work Plan Approval by completing and submitting the WAF along with the required attachments to the EPA CO. In addition, the RPM/RPO will need to check the funding level of the project to determine if a procurement request will be required as well. A copy of a completed WAF for an Amendment to Final Work Plan Approval is shown in Figure 11.

If it is necessary to make changes to the work assignment and it is determined that the changes are minor, a TDM will be adequate. This decision must be based on discussions with the EPA RPO, who may feel that the dollar amount of the required changes could be absorbed in other tasks throughout the course of the assignment. If the changes are significant, a WA amendment is prepared detailing scope, schedule, and budget changes and is submitted for approval to the EPA RPO.

When an amendment is being prepared, the Contractor should prepare a WAF with appropriate back-up. The back-up required includes the following:

- A detailed scope of work to be performed or a detailed description of the changes that take place in the assignment;
- Schedule update, including task completion dates (milestones), and critical path schedule (optional);
- Identification of any subcontracting or special equipment requirements;
- Staffing of each task in this phase; and
- A detailed LOE and cost estimate for each task or phase being covered by the amendment.

The EPA CO will approve the WAF, authorize funding as appropriate, and will send a copy of the completed WAF to the RPM/RPO, EPA PO and the Contractor. In the case of an amendment to final work plan approval, the Contractor will execute the Statement of Work upon receipt of a WAF approved by the RPM/RPO and the EPA CO. In addition, the RPM/RPO may again set an Expenditure Limit (EL) in order to manage the phased execution of the WA at the regional level.

FIGURE 11

USEPA		WORK ASSIGNMENT FORM																																					
1. WORK ASSIGNMENT INFORMATION PROJECT NAME: <u>ABC CO., TX</u> CONTRACTOR: <u>CDM INC.</u> WORK ASSIGNMENT NO.: <u>1-6L51</u> ACTIVITY: <u>RI/FS</u> EPA CONTRACT NO.: <u>68-01-6939</u> REVISION NO.: <u>5</u> DATE: <u>8/15/85</u> CONTRACTOR CONTROL NO.: <u>999-PM1-RT-CDHB</u> MODIFICATION NO.: <u>N/A</u> (Contracting Officer Use Only)																																							
2. DESCRIPTION OF ACTION: <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%; vertical-align: top; padding: 5px;"> ☐ NEW WORK ASSIGNMENT • Interim SOW, schedule, and LOE • Complete SOW estimated budget and schedule • REQUIRED APPROVAL EPA REGION/ HEADQUARTERS </td> <td style="width: 20%; vertical-align: top; padding: 5px;"> ☐ INTERIM AMENDMENT • Change in LOE, Scope by task • Add additional tasks or funds ☐ INCREMENTAL FUNDING EPA REGION/ HEADQUARTERS </td> <td style="width: 20%; vertical-align: top; padding: 5px;"> ☐ PARTIAL WORK PLAN APPROVAL ☐ FINAL WORK PLAN APPROVAL • Approval of work plan • Add funds ☒ AMENDMENT TO FINAL WORK PLAN APPROVAL • Change in LOE, scope or budget by task • Add additional task or funds (include OF 60 or SF 1411) EPA REGION/ HEADQUARTERS </td> <td style="width: 20%; vertical-align: top; padding: 5px;"> ☐ TECHNICAL DIRECTION MEMORANDUM • Detailed scope, budget and schedule • Revise expenditure level • Minor shift within SOW (All changes must be within overall scope, budget, and LOE approved by EPA CO) EPA REGION </td> <td style="width: 20%; vertical-align: top; padding: 5px;"> ☐ WORK ASSIGNMENT COMPLETION NOTIFICATION (NO ATTACHMENTS) • Contractor originates • Regional determination • When signed by CO, this constitutes a stop work order CONTRACTOR </td> </tr> </table>						☐ NEW WORK ASSIGNMENT • Interim SOW, schedule, and LOE • Complete SOW estimated budget and schedule • REQUIRED APPROVAL EPA REGION/ HEADQUARTERS	☐ INTERIM AMENDMENT • Change in LOE, Scope by task • Add additional tasks or funds ☐ INCREMENTAL FUNDING EPA REGION/ HEADQUARTERS	☐ PARTIAL WORK PLAN APPROVAL ☐ FINAL WORK PLAN APPROVAL • Approval of work plan • Add funds ☒ AMENDMENT TO FINAL WORK PLAN APPROVAL • Change in LOE, scope or budget by task • Add additional task or funds (include OF 60 or SF 1411) EPA REGION/ HEADQUARTERS	☐ TECHNICAL DIRECTION MEMORANDUM • Detailed scope, budget and schedule • Revise expenditure level • Minor shift within SOW (All changes must be within overall scope, budget, and LOE approved by EPA CO) EPA REGION	☐ WORK ASSIGNMENT COMPLETION NOTIFICATION (NO ATTACHMENTS) • Contractor originates • Regional determination • When signed by CO, this constitutes a stop work order CONTRACTOR																													
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4. WA COMPLETION DATE CURRENT: <u>9/30/85</u> REVISED: <u>10/30/85</u>																																							
5. EPA COMMENTS: _____ _____ _____ _____																																							
6. APPROVALS <table style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> CONTRACTOR SIGNATURES: <u>Robert Krachit</u> SITE MANAGER/FIRM PHONE: <u>(409) 610-0800</u> DATE: <u>8/15/85</u> REGIONAL MANAGER/FIRM DATE: <u>8/15/85</u> </td> <td style="width: 50%; vertical-align: top;"> EPA SIGNATURES: <u>Charles Berry</u> REGIONAL PROJECT MANAGER PHONE: <u>(202) 382-1000</u> DATE: <u>8/21/85</u> <u>Herb Binger</u> REGIONAL PROJECT OFFICER DATE: <u>8/22/85</u> </td> </tr> </table>						CONTRACTOR SIGNATURES: <u>Robert Krachit</u> SITE MANAGER/FIRM PHONE: <u>(409) 610-0800</u> DATE: <u>8/15/85</u> REGIONAL MANAGER/FIRM DATE: <u>8/15/85</u>	EPA SIGNATURES: <u>Charles Berry</u> REGIONAL PROJECT MANAGER PHONE: <u>(202) 382-1000</u> DATE: <u>8/21/85</u> <u>Herb Binger</u> REGIONAL PROJECT OFFICER DATE: <u>8/22/85</u>																																
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☒ APPROVED AS SUBMITTED ☐ APPROVED WITH CHANGES ☐ NOT APPROVED <u>Oliver Thompson</u> SIGNATURE OF CONTRACTING OFFICER <u>Aug 20, 1985</u> DATE APPROVED																																							

CC EPA Project Officer
 RPO/RPM
 Contractor
 EPA Contracting Officer (when only expenditure limit column is used)

UPDATE 11/13/86

ATTACH STATEMENT OF WORK
 (PER DESCRIPTION OF ACTION)

4.3 Responsibilities

The RPM/RPO are responsible for the following tasks:

- reviewing and approving the TDM(s) submitted by the Contractor;
- setting an Expenditure Limit, as appropriate, for the execution of work described in the TDM;
- transmitting a copy of the approved WAF-TDM to the Contractor, EPA PO and the EPA CO;
- reviewing and approving Amendments to the Final Work Plan Approval and completing the WAF;
- reviewing funding level when either a TDM or an Amendment to the Final Approved Work Plan is submitted by the Contractor;
- transmitting a copy of the completed WAF and the Amendment to the Final Work Plan Approval to the EPA CO for approval and authorization;
- setting an Expenditure Limit, as appropriate, upon the EPA CO's approval of the Amendment to the Final Work Plan Approval; and
- approving TDM forms submitted by the Contractor.

The EPA Contracting Officer is responsible for the following tasks:

- approving Amendments to the Final Work Plan Approval by completing the WAF and authorizing additional funding as appropriate; and
- sending copies of the completed WAF to the Contractor, EPA PO and the RPM/RPO.

The Contractor is responsible for the following tasks:

- preparing a TDM or an Amendment to the Final Work Plan Approval (together with a WAF) depending on changes to the original work plan scope budget, and schedule;
- submitting the WAF to the RPM/RPO for approval if the work is to be conducted under a TDM;
- submitting the WAF (and, as appropriate an OF-60 or SF-1411) as an Amendment to the Final Work Plan Approval if major scope, schedule or budget changes are required;
- responding to any RPM/RPO comments on the TDM or an Amendment to the Final Work Plan Approval; and
- executing the TDM or Work Plan Amendment SOW upon receipt of the appropriate written approvals.

4.4 Deliverables

The deliverables for this level of the Work Assignment process include the following:

- TDM (if required) which includes a completed WAF and a detailed scope, budget and schedule (Contractor); and
- Amendment to the Final Work Plan Approval (if required) which includes a completed WAF and a detailed scope, budget and schedule from the Contractor (and an OF-60 or SF-141 as appropriate).

5.0 COMPLETION OF THE PROJECT

Figure 12 (Level 4) presents a flow diagram identifying the steps involved in the completion, close-out, and subsequent invoicing of a work assignment. As shown in Figure 12 and marked by the completion of the project, a WAF stating that the project is complete (with appropriate detailed budget information) is prepared by the Contractor and submitted to the EPA RPM/RPO. The RPM/RPO will then sign the WAF and forward it to the EPA CO with a copy to the PO. A sample completed WAF for a work assignment completion notification is shown in Figure 13.

Upon receipt of the WAF, the EPA CO issues a "Stop Work Order" (SWO) to the Contractor and submits copies of this SWO to the EPA RPO, RPM, and PO. This SWO will cover major technical activities only; administrative activities relating to close-out will proceed as needed.

With the SWO in place, the Contractor will then prepare the award fee package, Work Assignment Completion Report (WACR), and the invoice (excluding close-out costs). The package is sent to the RPM and the RPO. During the preparation of this package, the Contractor will simultaneously begin the physical project close-out. The physical close-out of a work assignment will include the following activities at a minimum:

- Compiling of project files;
- turning over all requested files (either in hard copy or microfiche format) to the EPA;
- turning over any government owned equipment to the project inventory or to the EPA Equipment Coordinator (if equipment was purchased with work assignment funds); and
- verifying that all appropriate site charges are being processed for inclusion in the final invoice.

All other close-out procedures and subsequent processing guidelines will be in accordance with the Contractors Award Fee Plan, which is included in the Management Plan.

FIGURE 12
COMPLETION OF THE PROJECT

LEVEL 4

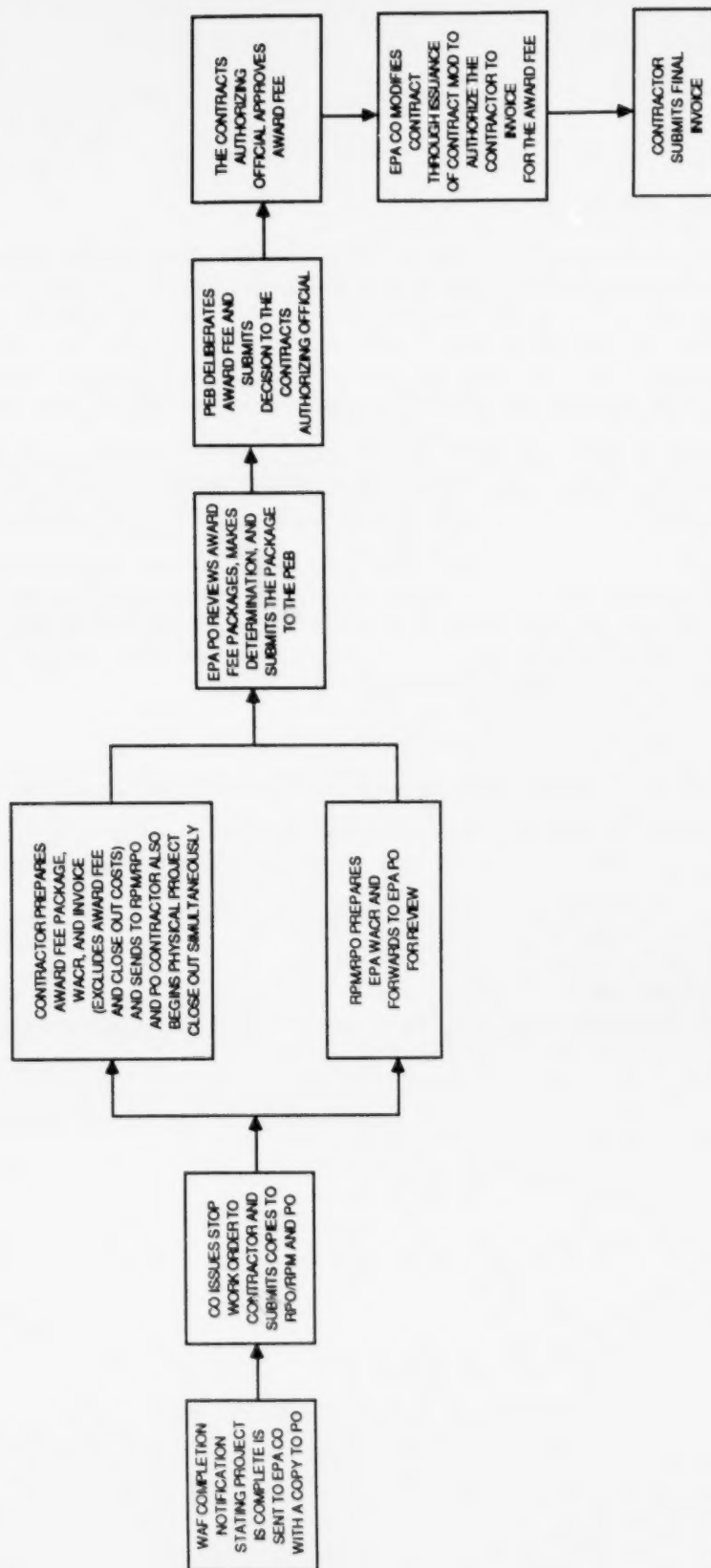


FIGURE 13

USEPA		WORK ASSIGNMENT FORM			
1. WORK ASSIGNMENT INFORMATION					
PROJECT NAME: <u>ABC CO., TX</u>		CONTRACTOR: <u>CDM INC.</u>		WORK ASSIGNMENT NO.: <u>1-6L51</u>	
ACTIVITY: <u>RI/FS</u>		EPA CONTRACT NO.: <u>68-01-6939</u>		REVISION NO.: <u>6</u>	
DATE: <u>9/30/85</u>		CONTRACTOR CONTROL NO.: <u>999-PM1-RT-CDHB</u>		MODIFICATION NO.: <u>N/A</u>	
(Contracting Officer Use Only)					
2. DESCRIPTION OF ACTION:					
☐ NEW WORK ASSIGNMENT • Interim SOW, schedule, and LOE • Complete SOW estimated budget and schedules REQUIRED APPROVAL EPA REGION/ HEADQUARTERS	☐ INTERIM AMENDMENT • Change in LOE, Scope by task • Add additional tasks or funds ☐ INCREMENTAL FUNDING EPA REGION/ HEADQUARTERS	☐ PARTIAL WORK PLAN APPROVAL ☐ FINAL WORK PLAN APPROVAL • Approval of work plan • Add funds ☐ AMENDMENT TO FINAL WORK PLAN APPROVAL • Change in LOE, scope or budget by task • Add additional task or funds (include OF 60 or SF 1411) EPA REGION/ HEADQUARTERS	TECHNICAL DIRECTION ☐ MEMORANDUM • Detailed scope, budget and schedule • Revise expenditure level • Minor shift within SOW (All changes must be within overall scope, budget, and LOE approved by EPA CO) EPA REGION	WORK ASSIGNMENT COMPLETION NOTIFICATION (NO ATTACHMENTS) • Contractor originates • Regional determination • When signed by CO, this constitutes a stop work order CONTRACTOR	
3. BUDGET INFORMATION					
	TOTAL FUNDING RECEIVED \$ *	INTERIM BUDGET (TECHNICAL LOE) (\$)*	APPROVED WORK PLAN BUDGET (TECHNICAL LOE) (\$)*	EXPENDITURE LIMIT (EL) * (TECHNICAL LOE) (\$)	
CURRENT	<u>560,000</u>				
THIS ACTION					
TOTAL	<u>560,000</u>				
Option - dollar estimate may be tracked regionally in expenditure limit block. EPA estimated LOE hours of entire WA _____		* INCLUDES FEES	* INCLUDES FEES	ESTABLISHED BY RPM/RPO	
4. WA COMPLETION DATE					
CURRENT: <u>9/30/85</u>		REVISED: <u>9/30/85</u>			
5. EPA COMMENTS:					
Please close out the above identified work assignment and send the Work Assignment Completion Report (WACR) and final invoice to Charles Berry.					
6. APPROVALS					
CONTRACTOR SIGNATURES <u>Robert Krachit</u> SITE MANAGER/FIRM PHONE: <u>(703) 610-0800</u> DATE: <u>9/30/85</u>			EPA SIGNATURES <u>Charles Berry</u> REGIONAL PROJECT MANAGER <u>Feb Emeyer</u> REGIONAL PROJECT OFFICER PHONE: <u>(202) 382-1000</u> DATE: <u>10/2/85</u>		
☒ APPROVED AS SUBMITTED					
☐ APPROVED WITH CHANGES <u>Alvin Thompson</u> SIGNATURE OF CONTRACTING OFFICER					
☐ NOT APPROVED <u>10/4/85</u> DATE APPROVED					

CC: EPA Project Officer
 RPO/RPM
 Contractor
 EPA Contracting Officer (when only expenditure limit column is used)

UPDATE: 11/13/88

ATTACH STATEMENT OF WORK
 (PER DESCRIPTION OF ACTION)

APPENDIX C

Names and Telephone Numbers of REM Contracting Officers and Project Officers

Contract	CO/PO	Telephone
REM/FIT (Zone 1) (Expired 9/30/86)	Ron Kovach, CO Bill Kaschak, PO	202-382-3201 202-382-3248
REM/FIT (Zone 2) (Expired 9/30/86)	Vince Gonzales, CO Carol Lindsay, PO	202-382-2090 202-382-2347
REM II	Ulrike Joiner, CO Steve Hooper, PO	202-382-2302 202-475-6689
REM III	Ron Kovach, CO John Smith, PO	202-382-3201 202-382-7996
REM IV	Vince Gonzales, CO Randy Kaltreider, PO	202-382-2090 202-382-2448
REM V	CO TBD Robert Quinn, PO	202-382-2350
REM VI	CO TBD Robert Quinn, PO	202-382-2350

APPENDIX C
Federal-Lead Regional Coordinators

REGION	COORDINATOR	TELEPHONE
I	Bob Quinn	202-382-2350
II	John Smith	202-382-7996
III	Lisa Woodson	202-475-8246
IV	Lisa Woodson	202-475-8246
V	Carol Lindsay	202-475-6704
VI	Randy Kaltreider	202-382-2448
VII	Carol Lindsay	202-475-6704
VIII	Randy Kaltreider	202-382-2448
IX	Steve Hooper	202-475-6689
X	Steve Hooper	202-475-6689

APPENDIX D

Example Interim Work Assignment SOW, Blank Procurement Request/Requisition, Work Assignment Completion Report

Example Interim Work Assignment SOW

Del Norte County Pesticide Storage Area

<u>Initial Tasks</u>	<u>Hours</u>
Task 1. Site Evaluation	(72 Hours)
• Review and Evaluate Existing Information and Data • Review Aerial Photography • Review Local Geography and Hydrology	
Task 2. Site Survey	(112 Hours)
• Conduct Field Survey and Prepare Site Topographic Map • Subcontractor Authorization • Site Visit	
Task 3. Development of Site-Specific Plans	(448 Hours)
All Administrative Activities Prior to Full Field Work Including:	
• Quality Assurance Project Plan (QAPP) • Site Management Plan • Data Management Plan • Health and Safety Plan • Sampling Plan • Community Relations Plan • Schedule and Costs • Work Plan Development	
Task 4. Site Soil Survey	(296 Hours)
• EM 31 Survey • Field Sampling • Field Sample Analyses	
Task 5. Additional Requirements	(320 Hours)
• Report on EM 31 Survey • Evaluation and Report on Chemical Analyses and Soil Contamination • QA/QC Audit • Attend Meetings, Briefings as Needed	

Total Project Hours: 1,248

Estimated Cost: \$75,000.00

EPA Form 1900-8 (Rev. 4-84) Replaces previous editions,
and EPA Form 1900-RT, which are obsolete

EPA WORK ASSIGNMENT COMPLETION REPORT (WACR)			
1. CONTRACT NO.		2. WORK ASSIGNMENT NO.	
		3. EPA REGION	
4. CONTRACTOR/SUBCONTRACTOR(S)		5. CONTRACTOR SITE MANAGER (Name and Phone No.)	
		6. RPM (Name and Phone No.)	
		7. WORK LOCATION (Site Name & State)	
8. BRIEFLY DESCRIBE SCOPE OF WORK.			
9. DESCRIBE CONTRACTOR'S PERFORMANCE.			
10. UNUSUAL PROBLEMS/OCCURRENCES AFFECTING CONTRACTOR'S PERFORMANCE			
11. PHASE I AVAILABLE		12. PHASE I PAID	13. PHASE II AVAILABLE
		14. PHASE II AWARD RECOMMENDED ☐ YES RECOMMENDED SIZE _____ ☐ NO	
15. STATE SPECIFIC REASONS FOR RECOMMENDATION FOR PHASE II AWARD. Additional pages may be attached if necessary.			
RPM		REM RPO	HQ EVALUATION COORDINATOR
_____ Signature and Date		_____ Signature and Date	_____ Signature and Date

Distribution:
 HQ Evaluation Coordinator (Original)
 Contracting Officer (Copy)
 REM RPO (Copy)
 RPM (Copy)
 Contractor (Copy)

EPA WORK ASSIGNMENT COMPLETION REPORT (WACR)

CONTRACT NO.		WORK ASSIGNMENT NO.		EPA REGION	
PROJECT SCHEDULE AND COST INFORMATION WORKSHEET					
APPROVED WORK PLAN AND WA AMENDMENT DATES	LOE & EXPENSE COST	SUBCON- TRACTING POOL COST	TOTAL PLANNED COST	PLANNED COMPLETION DATE	ACTUAL COMPLETION DATE
WORK PLAN APPROVAL DATE Amendment 1 Amendment 2 Amendment 3					
TOTAL PLANNED COST					
TOTAL ACTUAL COST					
VARIANCE					

Distribution:
HQ Evaluation Coordinator (Original)
Contracting Officer (Copy)
R&M RPO (Copy)
RPM (Copy)
Contractor (Copy)

EPA WORK ASSIGNMENT COMPLETION REPORT (WACR)		
CONTRACT NO.	WORK ASSIGNMENT NO.	EPA REGION
PERFORMANCE CRITERIA RATING WORKSHEET		
PERFORMANCE CRITERIA	RATING	SUPPORTING COMMENTS
PROJECT PLANNING - ORGANIZING (E.G., WORK PLAN DEVELOPMENT, DATA REVIEW) - SCHEDULING - BUDGETING	_____ 5 _____ 4 _____ 3 _____ 2 _____ 1	
TECHNICAL COMPETENCE & INNOVATION - EFFECTIVENESS OF ANALYSES - MEET PLAN GOALS - ADHERE TO REGS. & PROCEDURES - APPROACH CREATIVITY/INGENUITY - SUPPORT COE, STATE, ENFORCEMENT - EXPERT TESTIMONY	_____ 5 _____ 4 _____ 3 _____ 2 _____ 1	
SCHEDULE & COST CONTROL - BUDGET (HOURS & COST) MAINTENANCE - PRIORITY SCHEDULE ADJUSTMENTS - COST MINIMIZATION	_____ 5 _____ 4 _____ 3 _____ 2 _____ 1	
REPORTING - TIMELINESS OF DELIVERABLES - CLARITY - THOROUGHNESS	_____ 5 _____ 4 _____ 3 _____ 2 _____ 1	
RESOURCE UTILIZATION - STAFFING - SUBCONTRACTING - EQUIPMENT TRAVEL, ETC.	_____ 5 _____ 4 _____ 3 _____ 2 _____ 1	
EFFORT - RESPONSIVENESS - MOBILIZATION - DAY TO DAY - SPECIAL SITUATIONS (E.G., ADVERSE/ DANGEROUS CONDITIONS)	_____ 5 _____ 4 _____ 3 _____ 2 _____ 1	

Distribution
 - HQ Evaluation Coordinator (Original)
 - Contracting Officer (Copy)
 - REM RPO (Copy)
 - RPM (Copy)
 - Contractor (Copy)

APPENDIX E

Sample USACE Work Assignments and Interagency Agreements

MEMORANDUM

SUBJECT: Procedures for Processing Superfund Interagency
Agreements with the U.S. Army Corps of Engineers

FROM: Paul F. Nadeau, Chief
Remedial Action and Contracts Branch

TO: Addressees

The Authority for Approving and Awarding Superfund Interagency Agreements (IAGs) with the U.S. Army Corps of Engineers (USACE) was delegated to the Regions effective October 1, 1984. The delegation include the generic IAGs for technical assistance (TA) and Phase I design (DA), along with the site specific IAGs for remedial design (RD) and remedial action (RA).

Sample IAGs are attached to provide guidance in processing and funding the IAGs with the USACE. The procedures are briefly summarized below. The Region should refer to the draft Superfund RD/RA Guidance for additional information on the IAGs.

Generic IAGs for TA and DA should be established by the Regions with the USACE Missouri River Division (MRD). The total amount of funds obligated in each generic IAG should be the sum of all TA or DA shown in your approved SCAP for first and second quarters. Site specific work assignments will then be issued to USACE-MRD under the established generic IAGs. The TA work assignment should be issued around the completion of the remedial investigation, and the DA work assignment should be issued about the time the feasibility study is made available to the public. The Region should complete the blocks marked with an "asterisk" on the sample IAG. The sample work assignment should be completed at the time of issuance.

Site specific IAGs for RD and RA will be prepared, approved and issued by the Region to the USACE-MRD. The IAG for RD should be executed after ROD approval, and upon RD completion the IAG for RA should be executed. The Region should complete the blocks marked with an "asterisk" on the sample IAGs, as well as filling in the appropriate information on the sample scope of work.

Any administrative questions concerning the IAGs should be addressed first to your Management Division, and if necessary to Billie Perry of OERR at 475-8906. Any technical questions should be addressed to Randall Kaltreider of my staff at 382-2448.

SAMPLE NO. 1

IAG FOR TECHNICAL ASSISTANCE

WASHINGTON, DC 20460					
INTERAGENCY AGREEMENT/AMENDMENT Part I - GENERAL INFORMATION		3. Type of Action New Agreement		4. Program Abbreviation *	
5. Name and Address of EPA Organization *		6. Name and Address of Other Agency Department of Defense U.S. Army Corps of Engineers (USACE) Engineering Division, Missouri River Omaha, Nebraska 68101-0103			
7. Project Title Technical Assistance Activities - FY 1985					
8. EPA Project Officer (Name, Address, Telephone Number) *		9. Other Agency Project Officer (Name, Address, Telephone Number) William Mulligan FTS/864-7227 USACE, Engineering Division, Missouri River P. O. Box 103, Downtown Station Omaha, Nebraska 68101-0103			
10. Project Period 10/01/84 - 09/30/85		11. Budget Period 10/01/84 - 09/30/85			
12. Scope of Work (Attach additional sheets, as needed) This agreement obligates no more than \$ * and generally no more than \$10,000 per project (except as described under Section 27, Special Conditions) to the USACE for technical assistance to EPA during EPA lead phases of remedial response activities. Such activities, consistent with the Memorandum of Understanding between the USACE and the EPA, may include: 1. Reviewing work plans developed by the contractor and providing comments and suggestions on the proposed work. 2. Technical review of investigation/feasibility study. 3. Providing comments on all plans and specifications for the cleanup. 4. Attending status briefings. The USACE will participate in site specific status briefings whenever such meetings are deemed necessary by the regional project officer. 5. Reviewing other contractor products. These products may include such things as sampling plans, plans and specifications for drum and bulk waste removal, and draft and final reports on the remedial investigation or the feasibility study.					
13. Statutory Authority for both Transfer of Funds and Project Activities CERCLA, E.O. 12316 & the Economy Act of 1932, as amended (31USC1535)					14. Other Agency Type Federal
FUNDS		PREVIOUS AMOUNT		AMOUNT THIS ACTION	
15. EPA Amount				*	
16. EPA In-Kind Amount					
17. Other Agency Amount					
18. Other Agency In-Kind Amount					
19. Total Project Cost				*	
20. Fiscal Information					
Program Element	FY	Appropriation	Doc. Control No.	Account Number	Object Class
TFAY9A	85	68/20X8145	*	*	25.76
Obligation/Deobligation Amt *					

21 Budget Categories		Total Itemization of Estimated Cost to Date
(a) Personnel		\$
(b) Fringe Benefits		
(c) Travel		
(d) Equipment		
(e) Supplies		
(f) Procurement/ Assistance		
(g) Construction		
(h) Other		
(i) Total Direct Charges		\$breakdown not available.
(j) Indirect Costs Rate 0000 % Base 0000		Will be provided as part of
(k) Total (EPA Share 100 %) (Other Agency Share 0 %)		request for reimbursement. \$ *
22 Is equipment authorized to be furnished by EPA or acquired with EPA funds? (Identify all equipment costing \$1,000 or more)		
		☐ Yes ☒ No
23 Are any of these funds being used on extramural agreements? ☐ Yes ☒ No (See item 21/)		
☐ Grant, ☐ Cooperative Agreement, or ☐ Procurement		
Contactor/ Recipient Name (if known)	Total Extramural Amount Under This Project	Percent Funded by EPA (if known)
PART III — PAYMENT METHODS AND BILLING INSTRUCTIONS		
24 ☒ Disbursement Agreement:		
☒ Reimbursement	Request for reimbursement of actual costs will be itemized on SF 1081 or SF 1080 and submitted to the Financial Management Office, Environmental Protection Agency, 26 West St. Clair, Cincinnati, OH 45268	
	☒ Monthly ☐ Quarterly ☐ Upon Completion of Work	
☐ Advance	Only available for use by Federal agencies on working capital fund or with appropriate justification of need for this type of payment method. Unexpended funds at completion of work will be returned to EPA. Quarterly cost reports will be forwarded to the Financial Management Office, Environmental Protection Agency, 26 West St. Clair, Cincinnati, OH 45268	
☐ Allocation Transfer	Used to transfer obligational authority or transfer of function between Federal agencies. Must receive prior approval by the Office of the Comptroller, Budget Division, Budget Formulation and Control Branch, EPA Headquarters	
25 ☐ Reimbursement Agreement		
Other Agency's IAG Identification Number	Billing Instructions and Frequency	
Billing Address		

26. General Conditions:

The other agency covenants and agrees that it will expeditiously initiate and complete the project work for which funds have been awarded under this agreement.

27. Special Conditions:

Work assignments for technical assistance will be initiated via a letter signed by the * or his designee. The letter will identify the particular site, provide the necessary account numbers, and describe any adjustments, including increases in the site dollar ceiling (\$10,000) and/or changes to the scope of work.

EPA acting as manager of the Hazardous Substance Response Trust Fund, requires current information on CERCLA response actions and related obligations of CERCLA funds for these actions. In addition, CERCLA authorizes EPA to recover from responsible parties all government costs incurred during a response action.

(See Attachment A)

Part V — OFFER AND ACCEPTANCE

NOTE: 1) For disbursement actions, the agreement/amendment must be signed in duplicate and one original returned to the Grants Administration Division for Headquarters agreements and to the appropriate EPA IAG administration office for Regional agreements within 3 calendar weeks after receipt or within any extension of time as may be granted by EPA. The agreement/amendment must be forwarded to the address cited in Item 28 after acceptance signature.

Receipt of a written refusal or failure to return the properly executed document within the prescribed time may result in the withdrawal of the offer by the Agency. Any change to the agreement by the other agency subsequent to the document being signed by the EPA Action Official which the Action Official determines to materially alter the agreement/amendment shall void the agreement/amendment.

2) For reimbursement actions, the other agency will initiate the action and forward two original agreements/amendments to the appropriate EPA program office for signature. The agreements/amendments will then be forwarded to the appropriate EPA IAG administration office for acceptance signature on behalf of the Environmental Protection Agency. One original copy will be returned to the other agency after acceptance.

EPA IAG Administration Office (for administrative management assistance)

EPA Program Office (for technical assistance)

28. Organization/Address

29. Organization/Address

Decision Official on Behalf of the Environmental Protection Agency Program Office

30. Signature

Typed Name and Title

Date

Action Official on Behalf of the Environmental Protection Agency

31. Signature

Typed Name and Title

Date

Authorizing Official on Behalf of the Other Agency

32. Signature

Typed Name and Title

Date

ATTACHMENT A

27. SPECIAL PROVISIONS (continued)

In order to help assure successful recovery of CERCLA funds, the USACE shall maintain site specific accounts and documentation of the following:

- . Employee hours and salary (timesheets)
- . Employee travel and per diem expenses (travel authorizations, paid vouchers, and treasury schedules)
- . Receipts for materials, equipment, and supplies
- . Any other costs not included in the above categories.

In the event of a cost recovery action, within three weeks from the date of a request from EPA or the Department of Justice (DOJ), the USACE will provide to EPA or DOJ site specific costs and copies of the back-up documentation which supports those costs. The USACE will provide EPA with a contract for obtaining such site specific accounting information and documentation. This cost information and documentation must also be available for audit or verification on request of the Inspector General.

Reimbursement is contingent upon receipt and approval by EPA of monthly progress and financial reports by site, containing an accounting of funds and status of activities.

The USACE will provide technical review comments for each site to the Regional Technical Project Officer.

TECHNICAL ASSISTANCE AUTHORIZATION FORM

AUTHORIZATION IS HEREBY GIVEN TO INITIATE TECHNICAL ASSISTANCE WORK AS DESCRIBED IN IAG # DW96 ***** -01-0. THE FOLLOWING INFORMATION IS PROVIDED FOR COST TRACKING PURPOSES:

SITE NAME _____

REGION _____

EPA SITE I.D. # _____

HQ TECHNICAL PROJECT OFFICER _____ PHONE _____

REMEDIAL PROJECT MANAGER _____ PHONE _____

PERIOD OF PERFORMANCE _____
FROM _____ TO _____

ACCOUNTING INFORMATION																																				
	DOCUMENT CONTROL NO.					IAG NO.										SUPERFUND ACCOUNT NO.					OBJECT CLASS CODE			NOT TO EXCEED AMOUNT												
DEOBLIGATE FROM:	.	.	.	.	.	D	W	9	6	.	.	.	.	.	0	1	0	5	T	F	A	.	.	.	L	0	0	2	5	7	6	\$	.	.	.	.
OBLIGATE TO:	.	.	.	.	.	D	W	9	6	.	.	.	.	.	0	1	0	5	T	F	A	.	.	.	L	.	.	2	5	7	6	\$	.	.	.	.

(Title) _____ DATE _____

EPA PROJECT OFFICER _____ DATE _____

(individual who certifies funds) _____ DATE _____

Original to: Richard Ruhe, EPA
Cincinnati, OH

cc: William Mulligan, USACE

Noel Urban, USACE

Paul Nadeau, EPA

Ivery Jacobs, EPA, Room 3623M
Financial Reports and Analysis Branch

Mr. William Mulligan
U.S. Army Corps of Engineers
Engineering Division, Missouri River
P.O. Box 103, Downtown Station
Omaha, Nebraska 68101-0103

Dear Mr. Mulligan:

This letter serves to initiate a work assignment for the U.S. Army Corps of Engineers (USACE) for technical assistance to the U.S. Environmental Protection Agency (EPA) at the following Superfund site:

Assistance will be given for EPA lead phases of remedial response activities. Such activities must be consistent with Interagency Agreement No. DW96*****-01-0 between the USACE and EPA. Funding for costs incurred while providing these services to EPA, authorized under the authority of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), is not expected to exceed:

\$ _____

Enclosed is the Technical Assistance Authorization Form. This document contains the necessary account numbers that apply specifically to this work assignment. These numbers must be used on all financial and management reports.

Sincerely yours,

(Title)

Enclosure

cc: Richard Ruhe
Noel Urban
Paul Nadeau
Ivery Jacobs

SAMPLE NO. 2

IAG FOR FIRST PHASE DESIGN WORK

Please read instructions on pages 4 and 5

US ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, DC 20460		1 IAG Identification Number		2 Funding Location by Region ★	
INTERAGENCY AGREEMENT/AMENDMENT Part I — GENERAL INFORMATION		3 Type of Action New Agreement		4 Program Abbreviation ★	
5 Name and Address of EPA Organization ★		6 Name and Address of Other Agency Department of Defense U.S. Army Corps of Engineers (USACE) Engineering Division, Missouri River Omaha, Nebraska 68101-0103			
7 Project Title First Phase Design Work - FY 1985					
8 EPA Project Officer (Name, Address, Telephone Number) ★		9 Other Agency Project Officer (Name, Address, Telephone Number) William Mulligan FTS/864-7227 USACE, Engineering Division, Missouri River P. O. Box 103, Downtown Station Omaha, Nebraska 68101-0103			
10 Project Period 10/01/84 - 09/30/85		11 Budget Period 10/01/84 - 09/30/85			
12 Scope of Work (Attach additional sheets, as needed) This agreement obligates no more than \$ ★ and generally no more than \$7,000 per project to the USACE to initiate the selection of Architectural/Engineering firms for the engineering design phase of Federal lead remedial action projects. The USACE will perform all action necessary to retain an A/E firm for engineering design, including the following: Phase I - ° Synopsize requirement in Commerce Business Daily ° Designate A/E pre-selection and selection boards ° Develop A/E pre-selection list ° Contact A/E firms to ascertain interest in project ° Approve A/E selection list ° Tentatively select A/E firm					
13 Statutory Authority for both Transfer of Funds and Project Activities CERCLA, E.O. 12316 & the Economy Act of 1932, as amended (31USC1535)					14 Other Agency Type Federal
FUNDS		PREVIOUS AMOUNT		AMOUNT THIS ACTION	
15 EPA Amount				★	
16 EPA In-Kind Amount					
17 Other Agency Amount					
18 Other Agency In-Kind Amount					
19 Total Project Cost				★	
20 Fiscal Information					
Program Element TFAY9A	FY 85	Appropriation 68/20X8145	Doc Control No ★	Account Number ★	Obligation: Deobligation Amt ★
				Object Class 25.76	

PART II — APPROVED BUDGET		IAG IDENTIFICATION NO.
21 Budget Categories		Total Itemization of Estimated Cost to Date
(a) Personnel		\$
(b) Fringe Benefits		
(c) Travel		
(d) Equipment		
(e) Supplies		
(f) Procurement / Assistance		
(g) Construction		
(h) Other		
(i) Total Direct Charges		\$ Breakdown not available.
(j) Indirect Costs	Rate \$ Base 0	Will be provided as part of request for reimbursement.
(k) Total (EPA Share 100 %) (Other Agency Share 0 %)		\$ *
22 Is equipment authorized to be furnished by EPA or acquired with EPA funds? ☐ Yes ☒ No <i>(Identify all equipment costing \$1,000 or more)</i>		
23 Are any of these funds being used on extramural agreements? ☐ Yes ☒ No (See Item 21f) ☐ Grant ☐ Cooperative Agreement or ☐ Procurement		
Contactor / Recipient Name (if known)		Percent Funded by EPA (if known)
PART III — PAYMENT METHODS AND BILLING INSTRUCTIONS		
24 ☒ Disbursement Agreement ☒ Reimbursement Request for reimbursement of actual costs will be itemized on SF 1081 or SF 1080 and submitted to the Financial Management Office, Environmental Protection Agency, 26 West St. Clair, Cincinnati, OH 45268. ☒ Monthly ☐ Quarterly ☐ Upon Completion of Work ☐ Advance Only available for use by Federal agencies on working capital fund or with appropriate justification of need for this type of payment method. Unexpended funds at completion of work will be returned to EPA. Quarterly cost reports will be forwarded to the Financial Management Office, Environmental Protection Agency, 26 West St. Clair, Cincinnati, OH 45268. ☐ Allocation Transfer Used to transfer obligational authority or transfer of function between Federal agencies. Must receive prior approval by the Office of the Comptroller, Budget Division, Budget Formulation and Control Branch, EPA Headquarters.		
25 ☐ Reimbursement Agreement		
Other Agency's IAG Identification Number		Billing Instructions and Frequency
Billing Address		

PART IV — ACCEPTANCE CONDITIONS		IAG IDENTIFICATION NO
26. General Conditions. The other agency covenants and agrees that it will expeditiously initiate and complete the project work for which funds have been awarded under this agreement.		
27. Special Conditions. Work assignments for A/E selection will be initiated via a letter signed by the * _____ or his designee. The letter will identify the particular site, provide the necessary account numbers, and describe any adjustments, including increases in the site dollar ceiling (\$7,000) and/or changes to the scope of work. The USACE will initiate Phase I actions upon receipt of EPA authorization. Phase II actions will not begin until EPA has notified the USACE of the selection and approval of a remedy and EPA approval of an Interagency Agreement for Phase II actions. EPA acting as manager of the Hazardous Substance Response Trust Fund, requires current information on CERCLA response actions and related obligations of CERCLA funds for these actions. In addition, CERCLA authorizes EPA to recover from responsible parties all government costs incurred during a response action. (See Attachment A)		
Part V — OFFER AND ACCEPTANCE		
NOTE: 1) For disbursement actions, the agreement/amendment must be signed in duplicate and one original returned to the Grants Administration Division for Headquarters agreements and to the appropriate EPA IAG administration office for Regional agreements within 3 calendar weeks after receipt or within any extension of time as may be granted by EPA. The agreement/amendment must be forwarded to the address cited in Item 28 after acceptance signature. Receipt of a written refusal or failure to return the properly executed document within the prescribed time may result in the withdrawal of the offer by the Agency. Any change to the agreement by the other agency subsequent to the document being signed by the EPA Action Official which the Action Official determines to materially alter the agreement/amendment shall void the agreement/amendment. 2) For reimbursement actions, the other agency will initiate the action and forward two original agreements/amendments to the appropriate EPA program office for signature. The agreements/amendments will then be forwarded to the appropriate EPA IAG administration office for acceptance signature on behalf of the Environmental Protection Agency. One original copy will be returned to the other agency after acceptance.		
EPA IAG Administration Office (for administrative management assistance)		EPA Program Office (for technical assistance)
28. Organization/Address *	29. Organization/Address *	
Decision Official on Behalf of the Environmental Protection Agency Program Office		
30. Signature 	Typed Name and Title *	Date
Action Official on Behalf of the Environmental Protection Agency		
31. Signature 	Typed Name and Title *	Date
Authorizing Official on Behalf of the Other Agency		
32. Signature 	Typed Name and Title 	Date

ATTACHMENT A

27. SPECIAL PROVISIONS (continued)

In order to help assure successful recovery of CERCLA funds, the USACE shall maintain site-specific accounts and documentation of the following:

- . Employee hours and salary (timesheets)
- . Employee travel and per diem expenses (travel authorizations, paid vouchers, and treasury schedules)
- . Receipts for materials, equipment, and supplies
- . Any other costs not included in the above categories

In order to assist in the development and prosecution of a cost recovery action, within three weeks from the date of a request from EPA or the Department of Justice (DOJ), the USACE will provide to EPA or DOJ site-specific costs and copies of the back-up documentation which supports those costs. EPA and DOJ may periodically request updates of the costs and documentation after the initial request. The USACE will provide EPA with a contact for obtaining such site-specific accounting information and documentation. This cost information and documentation must also be available for audit or verification on request of the Inspector General.

USACE will provide access to its files concerning the project on an on-going basis for EPA and DOJ examination to assist in cost recovery. As original documents may be requested for cost recovery actions, USACE will provide EPA and DOJ access to the original documentation when requested. USACE will notify EPA in advance of placing any project files in storage or archives.

Reimbursement is contingent upon receipt and approval by EPA of monthly progress and financial reports by site, containing an accounting of funds and status of activities.

The USACE will provide a letter report summarizing each A/E selection to the Regional Technical Project Officer.

Mr. William Mulligan
U.S. Army Corps of Engineers
Engineering Division, Missouri River
P. O. Box 103, Downtown Station
Omaha, Nebraska 68101-0103

Dear Mr. Mulligan:

This letter serves to initiate a work assignment for the U. S. Army Corps of Engineers (USACE) to select an architectural/engineering firm to design the remedial action at the following superfund site:

The selected activities must be consistent with the Interagency Agreement No. DW96*****-01-0 between the USACE and the Environmental Protection Agency (EPA). Funding for costs incurred while providing these services to EPA, authorized under the authority of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), is not expected to exceed:

\$ _____

Enclosed is the Phase I Design Authorization Form. This document contains the necessary account numbers that apply specifically to this work assignment. These numbers must be used on all financial and management reports.

Sincerely yours,

(Title)

Enclosure

cc: Richard Ruhe
Noel Urban
Paul Nadeau
Ivery Jacobs

AUTHORIZATION FORM FOR PHASE I DESIGN

AUTHORIZATION IS HEREBY GIVEN TO INITIATE THE FIRST PHASE OF DESIGN WORK AS DESCRIBED IN IAG # DW96930***-01-0. THE FOLLOWING INFORMATION IS PROVIDED FOR COST TRACKING PURPOSES:

SITE NAME _____

REGION _____

EPA SITE I.D. # _____

HQ TECHNICAL PROJECT OFFICER _____

REGIONAL SITE MANAGER _____

PERIOD OF PERFORMANCE _____

PHONE

PHONE

FROM TO

ACCOUNTING INFORMATION																																											
																				OBJECT					NOT TO																		
DOCUMENT																				SUPERFUND					CLASS					EXCEED													
CONTROL NO.										IAG NO.										ACCOUNT NO.					CODE					AMOUNT													
DEOBLIGATE FROM:					*	*	*	*	*	*	D	W	9	6	*	*	*	*	*	*	0	1	0	5	T	F	A	*	*	*	N	0	0	2	5	7	6	\$	*	*	*	*	*
OBLIGATE TO:					*	*	*	*	*	*	D	W	9	6	*	*	*	*	*	*	0	1	0	5	T	F	A	*	*	*	N	*	*	2	5	7	6	\$	*	*	*	*	*

(Title) DATE

EPA PROJECT OFFICER DATE

(individual who certifies funds) DATE

Original to: Richard Ruhe, EPA
Cincinnati, OH

cc: William Mulligan, USACE

Noel Urban, USACE

Paul Nadeau, EPA

Ivery Jacobs, EPA, Room 3623M
Financial Reports and Analysis Branch

SAMPLE NO. 3

IAG FOR DESIGN OF REMEDIAL ACTION

Please read instructions on pages 4 and 5

US ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, DC 20460 INTERAGENCY AGREEMENT/AMENDMENT Part I — GENERAL INFORMATION		1 IAG Identification Number 3 Type of Action New Agreement	2 Funding Location by Region * 4 Program Abbreviation *
5 Name and Address of EPA Organization *		6 Name and Address of Other Agency Department of Defense U.S. Army Corps of Engineers (USACE) Engineering Division, Missouri River Omaha, Nebraska 68101-0103	
7 Project Title Design of remedial action at _____ *			
8 EPA Project Officer (Name, Address, Telephone Number) *		9 Other Agency Project Officer (Name, Address, Telephone Number) William Mulligan FTS/864-7227 USACE, Engineering Division, Missouri River P. O. Box 103, Downtown Station Omaha, Nebraska 68101-0103	
10 Project Period *		11 Budget Period * (same as project period)	
12 Scope of Work (Attach additional sheets, as needed) This Interagency Agreement obligates a total of \$ * to the U.S. Army Corps of Engineers (USACE) for the design of remedial action at _____. (ID# *). These funds are divided as follows: 1. \$ * for a contract to design the remedial action. 2. \$ * for supervision and execution of the contract. Specific USACE responsibilities are detailed in the appended Scope of Work (Attachment A).			
13 Statutory Authority for both Transfer of Funds and Project Activities CERCLA, E.O. 12316 & Economy Act of 1932, as amended (31USC1535)			14 Other Agency Type Federal
FUNDS		PREVIOUS AMOUNT	AMOUNT THIS ACTION
15 EPA Amount			*
16 EPA In-Kind Amount			
17 Other Agency Amount			
18 Other Agency In-Kind Amount			
19 Total Project Cost			*
20 Fiscal Information			
Program Element TFAY9A	FY 85	Appropriation 68/20X8145	Doc. Control No. *
			Account Number *
			Object Class 25.76
			Obligation - Deobligation Am. *

PART II — APPROVED BUDGET		IAG IDENTIFICATION NO.
21. Budget Categories		Total Itemization of Estimated Cost to Date
(a) Personnel		\$
(b) Fringe Benefits		
(c) Travel		
(d) Equipment		
(e) Supplies		
(f) Procurement/ Assistance		
(g) Construction		
(h) Other		
(i) Total Direct Charges		\$ (Breakdown not available.
(j) Indirect Costs Rate % Base		Will be provided prior to reimbursement.)
(k) Total (EPA Share 100 % (Other Agency Share 0 %)		\$ *
22. Is equipment authorized to be furnished by EPA or acquired with EPA funds? ☐ Yes ☒ No (Identify all equipment costing \$1,000 or more)		
23. Are any of these funds being used on extramural agreements? ☒ Yes ☐ No (See Item 21f) ☐ Grant ☐ Cooperative Agreement or ☒ Procurement		
Contactor/ Recipient Name (if known) Unknown	Total Extramural Amount Under This Project * (Estimate)	Percent Funded by EPA (if known) 100
PART III — PAYMENT METHODS AND BILLING INSTRUCTIONS		
24. ☒ Disbursement Agreement ☒ Reimbursement Request for reimbursement of actual costs will be itemized on SF 1081 or SF 1080 and submitted to the Financial Management Office, Environmental Protection Agency, 26 West St. Clair, Cincinnati, OH 45268. ☒ Monthly ☐ Quarterly ☐ Upon Completion of Work ☐ Advance Only available for use by Federal agencies on working capital fund or with appropriate justification of need for this type of payment method. Unexpended funds at completion of work will be returned to EPA. Quarterly cost reports will be forwarded to the Financial Management Office, Environmental Protection Agency, 26 West St. Clair, Cincinnati, OH 45268. ☐ Allocation Transfer Used to transfer obligational authority or transfer of function between Federal agencies. Must receive prior approval by the Office of the Comptroller, Budget Division, Budget Formulation and Control Branch, EPA Headquarters.		
25. ☐ Reimbursement Agreement		
Other Agency's IAG Identification Number	Billing Instructions and Frequency	
Billing Address		

PART IV — ACCEPTANCE CONDITIONS		IAG IDENTIFICATION NO
26 General Conditions The other agency covenants and agrees that it will expeditiously initiate and complete the project work for which funds have been awarded under this agreement.		
27 Special Conditions Reimbursement is contingent upon receipt and approval by EPA of the monthly progress and financial reports from the USACE described below and any other reports described in the appended scope of work. The monthly progress reports will be submitted to (Regional P.O.) _____ in EPA Region _____, (city) _____, (state) _____, and _____ (Hq P.O.) _____ in EPA, Washington, D.C. EPA acting as manager of the Hazardous Substance Response Trust Fund, requires current information on CERCLA response actions and related obligations of CERCLA funds for these actions. In addition, CERCLA authorizes EPA to recover from responsible parties all government costs incurred during a response action. (See Attachment B)		
Part V — OFFER AND ACCEPTANCE		
NOTE: 1) For disbursement actions, the agreement/amendment must be signed in duplicate and one original returned to the Grants Administration Division for Headquarters agreements and to the appropriate EPA IAG administration office for Regional agreements within 3 calendar weeks after receipt or within any extension of time as may be granted by EPA. The agreement/amendment must be forwarded to the address cited in Item 28 after acceptance signature. Receipt of a written refusal or failure to return the properly executed document within the prescribed time may result in the withdrawal of the offer by the Agency. Any change to the agreement by the other agency subsequent to the document being signed by the EPA Action Official which the Action Official determines to materially alter the agreement/amendment shall void the agreement/amendment. 2) For reimbursement actions, the other agency will initiate the action and forward two original agreements/amendments to the appropriate EPA program office for signature. The agreements/amendments will then be forwarded to the appropriate EPA IAG administration office for acceptance signature on behalf of the Environmental Protection Agency. One original copy will be returned to the other agency after acceptance.		
EPA IAG Administration Office (for administrative management assistance)		EPA Program Office (for technical assistance)
28 Organization/Address *	29 Organization/Address *	
Decision Official on Behalf of the Environmental Protection Agency Program Office		
30 Signature	Typed Name and Title *	Date
Action Official on Behalf of the Environmental Protection Agency		
31 Signature	Typed Name and Title *	Date
Authorizing Official on Behalf of the Other Agency		
32 Signature	Typed Name and Title	Date

REMEDIAL DESIGN

Scope of Work

SITE [Name, City, State]

PURPOSE

The purpose of this assignment is to obtain assistance from the U.S. Army Corps of Engineers (USACE) for the design of a remedial action at the [site name].

BACKGROUND

[Briefly summarize the site in 1 or 2 paragraphs to include]

- o [Location of site]
- o [Brief history of operations, releases, response actions, etc.]
- o [Quantity, types, and concentrations of hazardous substances]
- o [Extent of contamination]

A Record of Decision (ROD) was signed by the [AA-OSWER or RA] on [date] selecting [description of remedy] as the cost effective remedy for the [site name].

REMEDY

The remedy selected by EPA and the State of [state name] includes the following components:

[List major components in bullet form]

WORK STATEMENT

The USACE will be responsible for:

1. Developing the technical statement of work and awarding and managing a contract to a private firm for the design of [description of remedy]. The design package will consist of the plans and specifications along with [include as necessary -O&M Plan, QAPP, Site Safety Plan, etc.).
2. Review of the design package in coordination with the EPA-RPM at approximately 30%, 60% (if necessary), 95%, and 100% completion. Approval and acceptance of final design, with concurrence from EPA.
3. Providing other support to include [permit assistance, community relations assistance, etc.].
4. Reproducing design documents.

Specific USACE responsibilities are detailed in the Superfund Remedial Design and Remedial Action Guidance.

27. SPECIAL PROVISIONS (continued)

In order to help assure successful recovery of CERCLA funds, the USACE shall maintain site-specific accounts and documentation of the following:

- . Employee hours and salary (timesheets)
- . Employee travel and per diem expenses (travel authorizations, paid vouchers, and treasury schedules)
- . Receipts for materials, equipment, and supplies
- . Contract costs (paid invoices, treasury schedules and copy of the contract)
- . Any other costs not included in the above categories

In order to assist in the development and prosecution of a cost recovery action, within three weeks from the date of a request from EPA or the Department of Justice (DOJ), the USACE will provide to EPA or DOJ site-specific costs and copies of the back-up documentation which supports those costs. EPA and DOJ may periodically request updates of the costs and documentation after the initial request. The USACE will provide EPA with a contact for obtaining such site specific accounting information and documentation. This cost information and documentation must also be available for audit or verification on request of the Inspector General.

USACE will provide access to its files concerning the project on an on-going basis for EPA and DOJ examination to assist in cost recovery. As original documents may be requested for cost recovery actions, USACE will provide EPA and DOJ access to the original documentation when requested. USACE will notify EPA in advance of placing any project files in storage or archives.

Reporting requirements are as follows:

The USACE will provide the EPA with a completed signed SF 1080 and monthly reports containing:

- a. USACE estimate of the percentage of project completed.
- b. USACE estimate of dollars expended on the project to date.
- c. Summaries of all change orders and claims made on the contract during the reporting period. Attach copies of all change orders as appendix.
- d. Summaries of all contracts with representatives of the local community, public interest groups or State government during the reporting period.
- e. Summaries of all problems or potential problems encountered during the reporting period.
- f. Projected work for the next reporting period.

SAMPLE NO. 4

IAG FOR IMPLEMENTATION OF REMEDIAL ACTION

Please read instructions on pages 4 and 5

US ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, DC 20460 INTERAGENCY AGREEMENT/AMENDMENT Part I — GENERAL INFORMATION		1 IAG Identification Number	2 Funding Location by Region
		3 Type of Action New Agreement	4 Program Abbreviation
5 Name and Address of EPA Organization *		6 Name and Address of Other Agency Department of Defense U.S. Army Corps of Engineers (USACE) Engineering Division, Missouri River Omaha, Nebraska 68101-0103	
7 Project Title Remedial action at *			
8 EPA Project Officer (Name, Address, Telephone Number) *		9 Other Agency Project Officer (Name, Address, Telephone Number) William Mulligan FTS/864-7227 USACE, Engineering Division, Missouri River P. O. Box 103, Downtown Station Omaha, Nebraska 68101-0103	
10 Project Period *		11 Budget Period * (same as project period)	
12 Scope of Work (Attach additional sheets, as needed) This agreement obligates a total of \$ * to the U.S. Army Corps of Engineers (USACE) for implementation of the remedial action at * * (EPA ID# *). divided as follows: 1. \$ * for implementation of the remedial action. 2. \$ * for supervision and execution of the contract awarded based on the Invitation for Bid (IFB). Specific USACE responsibilities are detailed in the appended Scope of Work (Attachment A).			
13 Statutory Authority for both Transfer of Funds and Project Activities CERCLA, E.O. 12316 & Economy Act of 1932, as amended (31USC1535)			14 Other Agency Type Federal
FUNDS	PREVIOUS AMOUNT	AMOUNT THIS ACTION	AMENDED TOTAL
15 EPA Amount		*	
16 EPA In-Kind Amount			
17 Other Agency Amount			
18 Other Agency In-Kind Amount			
19 Total Project Cost		*	
20 Fiscal Information			
Program Element TFAY9A	FY 85	Appropriation 68/20X8145	Doc Control No *
			Account Number *
			Object Class 25.76
			Obligation-Deobligation Amt *

PART II — APPROVED BUDGET		IAG IDENTIFICATION NO.
21 Budget Categories		Total Itemization of Estimated Cost to Date
(a) Personnel		\$
(b) Fringe Benefits		
(c) Travel		
(d) Equipment		
(e) Supplies		
(f) Procurement / Assistance		
(g) Construction		
(h) Other		
(i) Total Direct Charges		\$ (Breakdown not available.
(j) Indirect Costs Rate \$ Base		Will be provided prior to
(k) Total (EPA Share 100 %) (Other Agency Share 0 %)		reimbursement.) \$ *
22 Is equipment authorized to be furnished by EPA or acquired with EPA funds? ☐ Yes ☒ No (Identify all equipment costing \$1,000 or more)		
23 Are any of these funds being used on extramural agreements? ☒ Yes ☐ No (See Item 21f) ☐ Grant ☐ Cooperative Agreement or ☒ Procurement		
Contactor / Recipient Name (if known)	Total Extramural Amount Under This Project	Percent Funded by EPA (if known)
Unknown	* (estimate)	100%
PART III — PAYMENT METHODS AND BILLING INSTRUCTIONS		
24 ☒ Disbursement Agreement ☒ Reimbursement ☐ Advance ☐ Allocation Transfer Request for reimbursement of actual costs will be itemized on SF 1081 or SF 1080 and submitted to the Financial Management Office, Environmental Protection Agency, 26 West St. Clair, Cincinnati, OH 45268. ☒ Monthly ☐ Quarterly ☐ Upon Completion of Work Only available for use by Federal agencies on working capital fund or with appropriate justification of need for this type of payment method. Unexpended funds at completion of work will be returned to EPA. Quarterly cost reports will be forwarded to the Financial Management Office, Environmental Protection Agency, 26 West St. Clair, Cincinnati, OH 45268. Used to transfer obligational authority or transfer of function between Federal agencies. Must receive prior approval by the Office of the Comptroller, Budget Division, Budget Formulation and Control Branch, EPA Headquarters.		
25 ☐ Reimbursement Agreement		
Other Agency's IAG Identification Number		Billing Instructions and Frequency
Billing Address		

PART IV — ACCEPTANCE CONDITIONS		IAG IDENTIFICATION NO.
26. General Conditions The other agency covenants and agrees that it will expeditiously initiate and complete the project work for which funds have been awarded under this agreement.		
27. Special Conditions Reimbursement is contingent upon receipt and approval by EPA of the monthly progress reports from USACE described below and any other reports described in the appended scope of work. The monthly progress reports will be submitted to (Regional P.O.) _____ in EPA Region _____ and (Hq P.O.) _____ in EPA, Washington, D.C. EPA acting as manager of the Hazardous Substance Response Trust Fund, requires current information on CERCLA response actions and related obligations of CERCLA funds for these actions. In addition, CERCLA authorizes EPA to recover from responsible parties all government costs incurred during a response action. (See Attachment A)		
Part V — OFFER AND ACCEPTANCE		
NOTE: 1) For disbursement actions, the agreement/amendment must be signed in duplicate and one original returned to the Grants Administration Division for Headquarters agreements and to the appropriate EPA IAG administration office for Regional agreements within 3 calendar weeks after receipt or within any extension of time as may be granted by EPA. The agreement/amendment must be forwarded to the address cited in Item 28 after acceptance signature. Receipt of a written refusal or failure to return the properly executed document within the prescribed time may result in the withdrawal of the offer by the Agency. Any change to the agreement by the other agency subsequent to the document being signed by the EPA Action Official which the Action Official determines to materially alter the agreement/amendment shall void the agreement/amendment. 2) For reimbursement actions, the other agency will initiate the action and forward two original agreements/amendments to the appropriate EPA program office for signature. The agreements/amendments will then be forwarded to the appropriate EPA IAG administration office for acceptance signature on behalf of the Environmental Protection Agency. One original copy will be returned to the other agency after acceptance.		
EPA IAG Administration Office (for administrative management assistance)		EPA Program Office (for technical assistance)
28. Organization/Address ★	29. Organization/Address ★	
Decision Official on Behalf of the Environmental Protection Agency Program Office		
30. Signature 	Typed Name and Title ★	Date
Action Official on Behalf of the Environmental Protection Agency		
31. Signature 	Typed Name and Title ★	Date
Authorizing Official on Behalf of the Other Agency		
32. Signature 	Typed Name and Title 	Date

REMEDIAL ACTION

Scope of Work

SITE [Name, City, State]

PURPOSE

The purpose of this assignment is to obtain assistance from the U.S. Army Corps of Engineers (USACE) for the implementation of a remedial action at the [site name].

BACKGROUND

[Briefly summarize the site in 1 or 2 paragraphs to include]

- o [Location of site]
- o [Brief history of operations, releases, response actions, etc.]
- o [Quantity, types, and concentrations of hazardous substances]
- o [Extent of contamination]

A Record of Decision (ROD) was signed by the [AA-OSWER or RA] on [date] selecting [description of remedy] as the cost effective remedy for the [site name].

The remedial design (RD) for the remedy was performed by the [USACE or other party].

REMEDY

The remedy selected by EPA and the State of [state name], and detailed in the IFB includes the following components:

[List major components in bullet form]

WORK STATEMENT

The USACE will be responsible for:

1. Conducting procurement activities for remedial action.
2. Managing the contract for remedial action.
3. Providing oversight and monitoring of construction in coordination with the EPA-RPM, to ensure compliance with all contract requirements.
4. Conducting final inspection and certification of completed remedial action in coordination with the EPA-RPM.

Specific USACE responsibilities are detailed in the Superfund Remedial Design and Remedial Action Guidance.

27. SPECIAL PROVISIONS (continued)

In order to help assure successful recovery of CERCLA funds, the USACE shall maintain site-specific accounts and documentation of the following:

- . Employee hours and salary (timesheets)
- . Employee travel and per diem expenses (travel authorizations, paid vouchers, and treasury schedules)
- . Receipts for materials, equipment, and supplies
- . Contract costs (paid invoices, treasury schedules and copy of the contract)
- . Any other costs not included in the above categories

In order to assist in the development and prosecution of a cost recovery action, within three weeks from the date of a request from EPA or the Department of Justice (DOJ), the USACE will provide to EPA or DOJ site-specific costs and copies of the back-up documentation which supports those costs. EPA and DOJ may periodically request updates of the costs and documentation after the initial request. The USACE will provide EPA with a contact for obtaining such site specific accounting information and documentation. This cost information and documentation must also be available for audit or verification on request of the Inspector General.

USACE will provide access to its files concerning the project on an on-going basis for EPA and DOJ examination to assist in cost recovery. As original documents may be requested for cost recovery actions, USACE will provide EPA and DOJ access to the original documentation when requested. USACE will notify EPA in advance of placing any project files in storage or archives.

Reporting requirements are as follows:

The USACE will provide the EPA with the following reports:

1. A completed signed SF 1080.
2. A monthly progress report containing:
 - a. USACE estimate of the percentage of project completed.
 - b. USACE estimate of dollars expended on the project to date.
 - c. Summaries of all change orders and claims made on the contract during the reporting period. Attach copies of all change orders as appendix.

- d. Summaries of all contacts with representatives of the local community, public interest groups of State government during the reporting period.
 - e. Summaries of all problems or potential problems encountered during the reporting period.
 - f. Projected work for the next reporting period.
3. Weekly telecon construction status update(s) to * _____, EPA, Region *.

APPENDIX F

ROD Materials: Responsiveness Summary and ROD Briefing Materials COMMUNITY RELATIONS RESPONSIVENESS SUMMARY [SITE NAME]

INTRODUCTION

The responsiveness summary documents for the public record:

- Concerns and issues raised during remedial planning
- Comments raised during the comment period on the RI/FS
- How EPA or the State considered and responded to these concerns.

CONCERNS RAISED PRIOR TO THE FEASIBILITY STUDY COMMENT PERIOD

Briefly describe:

- Major concerns and issues raised by State and local officials, potentially responsible parties, and citizens. The level of concern over each of the major issues should be discussed. Include the number of times a concern was raised, the number of people raising the concern and names of individuals or groups raising concerns and issues when appropriate.
- Activities conducted by EPA or the State to elicit citizen input and to address specific concerns and issues; for example, small group meeting, news conference, and progress reports.
- Changes in any remedial planning activities as a result of concerns raised.

CONCERNS RAISED DURING THE COMMENT PERIOD

Briefly describe comments on the feasibility study made by local officials, potentially responsible parties and citizens:

- Categorize comments by major issue or topic addressed.
- Summarize comments under the categories as completely as possible. Do not be so brief that the essence is lost. For example, "concern about health effects" is not specific enough. Which health effect is the community worried about?
- Discuss the level of concern over each of the major issues. Include how many times the comment was raised and the number of people raising the concern. Include names of individuals and groups raising concerns and issues when appropriate.
- Discuss when the comment period started and stopped. Mention when, where, and level of attendance at public meeting, if held.

RESPONSE TO COMMUNITY CONCERNS

Explain Agency response:

- Note whether staff met with concerned citizens or conducted other communication activities during the comment period such as a public meeting or availability of technical staff to respond to questions.
- Document any modifications or changes in the remedial alternative as a result of comments.
- Give the reasons for rejecting the community's or potentially responsible party's preferred alternative if the Agency's selected alternative is different. The citation of "CERCLA" alone does not explain the Agency's rationale. A more detailed explanation is required.
- Document in detail any alternatives provided by the public or potentially responsible parties that are not evaluated in the feasibility study.
- Include any letters, reports, etc., received from potentially responsible parties.

REMAINING CONCERNS

Briefly explain:

- Any areas of community concern that require Agency attention during remedial design and construction.
- How EPA or the State intends to resolve any outstanding concerns.

**FORMAT FOR BRIEFING THE REGIONAL [ASSISTANT] ADMINISTRATOR
RECORD OF DECISION
[SITE NAME]**

PURPOSE

- The purpose of this Record of Decision (ROD) is select the appropriate remedial action at the [site name] that is consistent with the requirements of CERCLA and the NCP. The Regional [Assistant] Administrator has been delegated the authority for that approval.

ISSUES

[Discuss general issues that the RA or AA should be aware of:]

- [State and local officials and community interest and concerns]
- [Federal facility or Federal generator]
- [RCRA issues for on-site actions, off-site disposal]
- [TSCA, other statutes]
- [State cost share, flood plain construction, new technologies, other issues]
- [RC or OGC concurrence or concerns].

Note: This section will be presented by Headquarters, in the case of a ROD signature by the AA.

MAIN POINTS

[Present:]

- [Brief summary of site history]
- [Brief summary of site description]
- [Summary of previous and current response actions]
- [Enforcement status]
- [Objectives of proposed RA]
- [Discuss Tabular Summary of Cost-Effectiveness Analysis including:]
 - [Alternatives and Costs]
 - [Public health, environmental, and technical considerations]
 - [Public comments]
 - [Recommended cost-effective alternative]
- [Waivers from other environmental programs, if necessary].

Note: This section should summarize only the information related to the proposed remedy.

- [Future RA's needed to complete site cleanup]
- [Summary charts and graphics - effective charts and graphics include:]
 - [Aerial photo showing key features.]
 - [Site map and/or aerial photo showing proposed actions.]
 - [Table of final alternatives listing the alternatives, capital, O&M and present worth, cost, and public health, environmental, technical and community considerations (see samples in Summary of Remedial Alternative Selections)].

Note: This section will be presented by the Region.

NEXT STEPS

[Describe:]

- | | <u>Action</u> | <u>Date</u> |
|---|---------------------------------|-------------|
| • | [RA or AA - OSWER approves ROD] | |
| • | [amend/award CA, SSC, IAG] | |
| • | [sign PR] | |
| • | [design remedy] | |
| • | [implement remedy]. | |

Note: This section will be presented by the Region.

Note: The Executive Summary should generally be limited to 3 to 5 pages, excluding charts and graphics.